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IMMUNIZATION AGAINST DIPHTHERIA

COMPARATIVE VALUE OF TOXOID AND TOXIN-ANTITOXIN MIXTURES *

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Von Behring demonstrated in 1913 that preparations of diphtheria toxin neutralized with antitoxin, similar to those which had previously been employed in immunizing horses, may safely be used for immunization of human beings. The effectiveness of active immunization against diphtheria in reducing both the incidence of the disease and the number of deaths caused by it was established by Park and his associates in the New York City Health Department. Thus encouraged, immunization against diphtheria has been practiced extensively, especially in America.

Until recently, the immunization has been accomplished by injection of standardized preparations of diphtheria toxin neutralized by antitoxin. The mixtures used by different workers varied in the proportion of toxin to antitoxin. Some were overneutralized, some just neutral and others were underneutralized. The total amount of toxin in an immunizing dose has also varied; 0.1 L + doses of underneutralized toxin have been substituted for the 3 L + doses formerly used in this country.

In 1923, Ramon described a preparation of diphtheria toxin which had been modified by the addition of from 3 to 4 per cent commercial solution of formaldehyde followed by incubation at from 38 to 40 C. during four to six weeks. Ramon found that diphtheria toxin thus treated loses its toxic properties but retains antigenic properties. Since the antigenic properties are not lost, this preparation is an effective immunizing agent. The addition of antitoxin is not necessary because the toxic properties have been destroyed. Ramon called this nontoxic but antigenic modification of diphtheria toxin diphtheria "anatoxin." It is distributed here under the name of diphtheria "toxoid."

For immunization of human beings, the toxoid at first was used in two doses: a first dose of 0.5 cc., and a second of 1 cc. In a recent article in which he reviews and brings up to date the methods of preparation, standardization and use of diphtheria toxoid, Ramon [1] recommends three doses: a first dose of 0.5 cc., followed in three weeks by a second dose of 1 cc. and, fifteen days later, by a third dose of from 1 to 1.5 cc. In the cases reported here, the three doses were given as recommended by Ramon except that an interval of two weeks instead of three weeks separated the first and second doses in most cases, and fourteen instead of fifteen days intervened between the second and third doses. Retests were not made until at least six weeks had elapsed after the last dose was injected.

Table 1 shows the results of Schick tests in 100 susceptible persons before and after immunization with five doses of 0.1 L + diphtheria toxin-antitoxin mixtures. The doses consisted of a first injection of 0.5 cc., followed by four 1 cc. doses of a 0.1 L + mixture, injected subcutaneously at weekly intervals. The potency of the toxin-antitoxin mixtures was checked on guinea-pigs. Only potent preparations were used. The retests were made three months or longer after the last dose was injected.

Five doses of toxin-antitoxin, instead of the usual three immunizing doses, were given because we had previously found that, out of a hundred persons who had received three doses of toxin-antitoxin at home or in other institutions before they came to us for retest, only 24 per cent showed entirely negative Schick tests. Failure of three 0.1 L + doses of toxin-antitoxin mixtures to confer immunity may be due, in some cases, to deterioration of the preparation on the market as reported by Rhoads.[2] But since we were dealing with adults, who are more difficult to immunize than children, and since most of them were student nurses who were about to go on contagious disease service so that the time for immunizing them was limited, it was considered safer to give the five doses before waiting three months for retesting.

Table 2 shows the original Schick tests and the results of retests in 100 susceptible persons immunized with the three doses of diphtheria toxoid. The toxoid used in this series was prepared and sent to us by Ramon.

It had been reported that severe reactions may follow the injection of diphtheria toxoid in adults; consequently its use in America had been for the most part limited to immunization of children under 12 years of age. A skin test solution is distributed with some commercial preparations of diphtheria toxoid and it is recommended that toxoid be given only to those who show a negative skin reaction with this solution, indicating that they are not sensitized to the proteins in the toxoid. In France, on the other hand, toxoid is employed in immunizing persons of all ages.

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* Owing to lack of space, this article has been abbreviated in THE JOURNAL by the omission of tables 1 and 2. The complete article appears in the authors' reprints.

1. Ramon, G.: Anatoxine diphthérique, Ann. de l'Inst. Pasteur **42**: 959-1009 (Sept.) 1928.
2. Rhoads, P. S.: Commercial Preparations of Diphtheria Toxin-Antitoxin, J. A. M. A. **90**: 254-257 (Jan. 28) 1928.

It has been emphasized by Ramon that individuals showing marked reactions with the boiled toxin control in the Schick test are more liable to severe reactions following injection of toxoid. It had already been observed in connection with toxin-antitoxin immunization that persons who showed "pseudoreactions" were more subject to general reactions of the type attributable to protein sensitization following injection of toxin-antitoxin. Positive skin reactions to the boiled toxin control, or "pseudoreactions," in the Schick test are attributed to sensitization to the bacterial proteins of the diphtheria bacillus which are not destroyed by heat as in the soluble toxin. It is thought that sensitization to the bacterial proteins indicates previous contact with the diphtheria bacillus. Kolmer [3] believes that not all reactions of this type, following injection of immunizing doses, are due to sensitization to the specific proteins of the diphtheria bacillus. He attributes part of them to protein contained in the medium employed for producing the toxin.

TABLE 3.—*Reactions After Immunizing Doses of Diphtheria Toxoid*

Type of Reaction	Cases	
	Number	Per Cent
No reaction, either local or general, after any dose	35	24.3
Small local reaction after one or more doses; no general reaction	46	31.9
Large local reaction after one or more doses; no general reaction	13	9.0
Slight general reaction after one or more doses	41	28.5
Moderate to severe general reaction after one or more doses	9	6.3

In this series, no serious reaction occurred with either the toxoid or the toxin-antitoxin. There were no sloughs, abscesses or other injuries resulting in any instance. It happens that persons who have the most severe reactions frequently do not complete their immunization; thus a report which includes only completed and retested cases might not give a correct impression of the frequency and severity of reactions. Immunizing doses of Ramon's toxoid were given to forty-four persons who did not have three doses or were not retested. These, together with the 100 persons listed in table 2, make 144 susceptible persons who received one or more doses of the toxoid. The reactions are shown in table 3.

The general reactions classed as mild consisted of no more than a headache in some instances; some general malaise without fever, or nausea without vomiting in others. In a few, there was a transient, low fever. None of the mild reactions caused loss of time from duties.

The nine cases in which moderate to severe reactions occurred were as follows:

REPORT OF CASES

CASE 1 (6736 in table 2).—Age 24 years. Schick test: 40 by 40 mm., intense, indurated. Control test: 30 by 35 mm., intense, indurated. After the first and third doses there was fever of 102 F. with general malaise. The first reaction lasted two days and the last was transient. After the second dose there was a slight general reaction. Retest: negative.

CASE 2.—Age 24 years. Schick test: 40 by 45 mm., intense, indurated. Control test: 40 by 40 mm., intense, indurated. After the first dose there was a fever of 102 F. which lasted two days. After the second dose there was a large local reaction, general malaise and less fever. A third dose was not given. Retest after two doses: positive.

3. Kolmer, J. A.: J. Immunol. **1**: 334, 1916.

CASE 3.—Age 25 years. Schick test: 10 by 15 mm., intense, indurated. Control test: 5 by 5 mm., moderate, not indurated. This patient had a history of diphtheria at 7 years of age. There was a slight general reaction after the first dose. The second dose was followed by a large local reaction extending from the shoulder to the elbow and completely around the arm. There was vomiting and a temperature of 102. The general reaction subsided after the first day. The local reaction began to subside on the third day. No more doses were given. Retest: negative.

CASE 4.—Age 20 years. Schick test: 40 by 60 mm., intense, indurated. Control test: 40 by 40 mm., intense, indurated. There was a large local reaction and a temperature of 103 after the first dose. No further doses were given. No retest.

CASE 5 (7182 in table 2).—Age 26 years. Schick test: 30 by 35 mm., intense, indurated. Control test: 20 by 25 mm., intense, indurated. After the first dose there was a large local reaction, general malaise and fever of 102. After the second and third doses there were similar reactions. Retest: negative.

CASE 6 (7187 in table 2).—Age 20 years. Schick test: 20 by 30 mm., intense, indurated. Control test: negative. There was a slight general reaction after the first dose. After the second dose the patient vomited and the temperature was 102.4. This reaction was transient. There was no reaction on the third dose. Retest: negative.

CASE 7.—Age 30 years. Schick test: 20 by 20 mm., intense, indurated. Control test: 15 by 15 mm., faint, not indurated. After the first dose there was general malaise, abdominal cramps and fever of 103. No further doses were given. This patient had had a previous attack of diphtheria. No retest.

CASE 8 (7613 in table 2).—Age 20 years. Schick test: 20 by 22 mm., intense, indurated. Control test: 10 by 10 mm., moderate, not indurated. After the first dose there was a large local reaction. After the second dose there was a large local reaction, general malaise and fever of 104. After the third dose there was a temperature of 102, a large local reaction and general malaise. Retest: negative.

CASE 9.—Age 11 years. Schick test: 35 by 50 mm., intense, indurated. Control test: 20 by 25 mm., intense, indurated. The first dose was followed by a reaction of three days' duration beginning with nausea, general malaise and fever of 102.6. The symptoms and fever were less on the second day and gone at the end of the third day. A second dose of 0.5 cc. was given. This was followed by a large local reaction. The third dose of 1 cc. produced only a local reaction. Retest: slightly positive.

It will be noted that in five of the nine cases in which the more severe reactions occurred there was a marked "pseudoreaction" in the original Schick test. In one of the others there was a moderate "pseudoreaction"; in two, a history of a previous attack of diphtheria, and in another there had been repeated exposures to the disease, affording opportunity for sensitization to the proteins of the diphtheria bacillus.

The immunizations reported here were done in order to compare the immunizing value of three doses of toxoid with five doses of toxin-antitoxin. As a rule, we inject preliminary doses of from 0.1 to 0.25 cc. of toxoid in persons who show a marked "pseudoreaction" in the Schick test or give a history of having had an attack of diphtheria. In this way it is usually possible to avoid severe reactions.

Four hundred and forty-one doses of two commercial preparations of diphtheria toxoid were given to 212 susceptible persons. Retests have been made in forty-five of these; 92.8 per cent were completely immunized by three doses of commercial toxoid. The reactions following injections of the commercial preparations were about the same as those which occurred after injections of the toxoid prepared by Ramon, except that one young woman had a reaction of an hour's duration, beginning about thirty minutes after injection of 1 cc., and char-

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acterized by abdominal pain and a generalized light flush of the skin. This patient was shown by means of skin tests to be sensitized to proteins contained in veal broth.

COMMENT

Diphtheria toxoid employed in the three doses recommended by Ramon immunized 94 per cent of 100 susceptible persons to the point of a negative Schick test. The five doses of toxin-antitoxin mixtures employed immunized 82 per cent of 100 persons to a negative Schick test. The results with both preparations were good; especially since the majority of persons in the series were adults, who are more difficult to immunize than children, and since in most of those who showed positive Schick tests after immunization, the size and intensity of the reaction had been reduced, indicating that they had acquired considerable, if incomplete, immunity. The fact that the series given toxoid included children while those given toxin-antitoxin included no one under 17 years of age does not account for the difference in results. Exclusive of children, 93.3 per cent were completely immunized in the series given toxoid.

The reaction that occurred in the young woman demonstrated to be sensitized to protein contained in veal broth appears to support Kolmer's idea that proteins in the medium employed for producing toxin may be responsible for part of the reactions that occur during the course of immunization. Since diphtheria toxoid is usually a more concentrated solution than the toxin dilutions used for toxin-antitoxin mixtures and since persons susceptible to diphtheria may be sensitized to proteins contained in the broth, it is advisable to keep the foreign protein content as low as possible in broth used for producing toxoid.

Because it does not contain any foreign serum in the form of antitoxin, the toxoid does not sensitize to horse or other serum.

CONCLUSIONS

Diphtheria toxoid as prepared by Ramon and given in the three doses recommended by him is a better immunizing agent than 0.1 L+ diphtheria toxin-antitoxin mixtures, even when five doses of the latter are given.

Diphtheria toxoid may safely be employed in immunizing adults. An extra skin test to detect sensitization to the bacterial proteins in diphtheria toxoid is not necessary. If there is a marked "pseudoreaction" in the Schick test or a history of diphtheria, it is advisable to give preliminary doses of from 0.1 to 0.25 cc. of toxoid.

Care should be taken that the broth employed in producing the toxoid does not contain an excessive amount of protein.

59 East Madison Street.

Rabies Vaccine.—Another eventful day was July 6, 1885, when Joseph Meister, a 9-year-old boy who had been severely bitten by a mad dog, was brought into Pasteur's laboratory by his mother. It had been heralded through the country that Pasteur had produced a vaccine that would immunize dogs against rabies. But it had never been given to a human being. Mrs. Meister, frantic with the knowledge that death was certain, implored Pasteur to try the experiment on her boy. The inoculations were begun that evening. Imagine the anxiety of both Pasteur and the mother as they watched day in and day out for symptoms of hydrophobia to develop. But nothing happened; the boy remained well, and the Pasteur treatment for rabies is one of the crowning achievements of medicine.—Kitchin, T. O.: Some Medical Problems, *South. Med. & Surg.*, April, 1929.

BASAL METABOLISM OF CHILDREN OF ABNORMAL BODY WEIGHT

I. BASAL METABOLISM OF OVERWEIGHT CHILDREN *

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During the past three years we have studied the basal metabolism of children referred to our clinic for various reasons. During this time, we have accumulated considerable information about overweight and underweight children. In the present paper we are reporting the data obtained in seventy overweight children. Obesity has been classified as follows:

1. Exogenous obesity due to:
   (*a*) Overfeeding ("Mast fettsucht" of von Noorden[1]).
   (*b*) Laziness ("Faulheitsfettsucht" of von Noorden).
   (*c*) A combination of the two.
2. Endogenous obesity:
   (*a*) A frank glandular etiology, such as myxedema due to hypothyroidism, obesity following castration, and adiposogenital dystrophy.
   (*b*) Constitutional obesity due not to overeating or underexercising or frank glandular disease, but caused by a constitutional tendency to obesity, which does not, of course, explain the condition.

In the endogenous obesity of frank glandular etiology, there is usually a lowered basal metabolic rate. In the other types of obesity, Du Bois[2] believes, the literature on this subject "furnishes conclusive proof of the normality of the basal metabolism in these cases."

The present study differs from those cited by Du Bois in that it was made exclusively on children. We studied the basal metabolism of thirty-five boys and thirty-five girls whose ages ranged from 6 to 14 years. These children were all otherwise normal, so far as careful clinical observation and laboratory tests failed to reveal any disease condition, other than excessive overweight, that might influence their metabolism.

In these apparently otherwise normal children, the weight exceeded normal limits by from 13 to 75 per cent. In many cases we elicited a frank history of overfeeding. Only a few confessed to laziness. In some cases there was a history of some operative procedure such as tonsillectomy or appendectomy immediately preceding the onset of the excessive increase in weight. In a number of cases the obesity followed an acute infection such as scarlet fever, mumps or measles. Some patients gave a history of some metabolic disturbance in the family, as diabetes, obesity or nephritis. We eliminated those cases in which the obesity was of frank glandular origin.

Perhaps there is some endocrine factor in all cases of excessive overweight, especially in actively growing children. However, our object in this paper is not to discuss the cause of the overweight but merely to present the results of basal metabolism tests in this condition, and to see how far the results in children parallel a similar condition in adults.

The Krogh calorimeter was used and the usual accepted technic adopted as to the postabsorptive state and initial rest period. All determinations were made

* From the Pediatric Service of Mount Sinai Hospital, Bela Schick, chief of staff.

1. Von Noorden: Die Fettsucht, ed. 2, Vienna and Leipzig, 1910.
2. Du Bois, E. F.: Basal Metabolism in Health and Disease, Philadelphia, Lea & Febiger, 1927.

in duplicate, each test lasting five minutes. As temporary nonbasal elevations of metabolism may be caused by slight disturbing conditions such as discomfort, excitement, muscular movement, surreptitious ingestion

TABLE 1.—*Essential Data in Boys*

						Nutritional State			Heat Production, Total Calories, 24 Hours				
Case	Age	Sitting Height, Cm.	Standing Height, Cm.	Weight, Kg.	Pulse	Pirquet Pelidisi	Baldwin-Wood % Overweight	Pirquet-Camerer % Overweight	Observed	Pirquet Prediction	Per Cent Deviation	Talbot Prediction*	Per Cent Deviation
1	10	73	138	40	68	106	13	14	1,050	1,065	— 2	1,140	— 7
2	12	77	148	48	84	105	15	20	1,2-5	1,185	+ 8	1,255	+ 3
3	10	69	135	37	80	105	15	12	1,140	952	+ 8	1,105	+ 4
4	12	76	147	47	80	104	16	21	1,208	1,155	+ 4	1,242	0
5	7	66	120	33	09	105	18	22	884	871	0	9 5	— 5
6	6	68	123	33	82	102	20	25	1,000	924	+ 8	965	+ 3
7	12	70	135	39	70	104	21	22	1,040	980	+ 6	1,105	+ 6
8	6	66	120	31	60	105	22	19	850	871	0	935	— 5
9	10	75	143	45	80	103	23	25	1,215	1,125	+ 8	1,230	+ 3
10	12	73	136	40	62	102	24	21	1,080	1,065	+ 1	1,115	— 3
11	14	86	165	69	80	103	25	30	1,608	1,479	+ 9	1,468	+ 9
12	13	89	167	68	90	100	26	31	1,872	1,548	+29	1,560	+24
13	12	77	146	50	84	104	27	37	1,300	1,185	+10	1,252	+ 5
14	12	77	147	49	80	103	27	29	1,260	1,185	+ 5	1,242	+ 9
15	12	72	133	40	78	103	29	25	1,032	1,036	0	1,083	— 4
16	14	81	153	57	90	103	30	35	1,488	1,312	+13	1,316	+10
17	13	75	142	51	84	110	30	40	1,230	1,121	+ 6	1,220	— 2
18	14	79	153	58	92	108	33	38	1,550	1,266	+22	1,316	+19
19	11	78	150	56	78	106	34	36	1,269	1,197	+ 6	1,280	+ 6
20	12	77	148	55	76	107	35	40	1,253	1,185	+ 5	1,255	0
21	13	77	149	58	74	110	36	40	1,248	1,185	+ 5	1,298	0
22	10	78	150	61	76	109	48	53	1,312	1,216	+ 7	1,280	+ 3
23	11	82	156	67	72	107	49	53	1,478	1,344	+10	1,352	+ 9
24	12	76	144	58	68	112	50	55	1,200	1,155	+ 4	1,210	0
25	12	76	144	56	80	105	54	51	1,280	1,155	+10	1,210	+ 6
26	10	76	144	59	60	111	55	59	1,200	1,155	+ 4	1,210	0
27	8	71	134	50	60	115	57	59	912	1,008	—10	1,070	—14
28	10	76	142	55	78	108	57	52	1,260	1,155	+10	1,187	+ 6
29	13	79	152	67	84	117	59	61	1,592	1,348	+12	1,304	+ 7
30	12	61	153	70	80	110	60	65	1,450	1,312	+10	1,316	+10
31	13	83	155	71	82	108	65	62	1,600	1,377	+16	1,340	+19
32	6	67	120	42	60	112	73	68	829	897	— 9	935	—12
33	12	79	144	66	62	112	75	80	1,320	1,266	+ 4	1,210	+ 8
34	10	82	150	73	60	110	75	80	1,260	1,345	— 5	1,285	— 1
35	9	77	147	52	68	105	75	80	1,596	1,185	+ 9	1,242	+ 4

* Projected beyond 150 cm.
Case 2, same child as case 1 after 2 years.
Case 18, same child as case 17 after 2 years.

of food and rise in temperature, we were careful, as far as possible, to exclude these factors by making four tests on each child, recording the lowest reading. In all cases in which the observed basal metabolic rate was above plus 10 per cent, the test was repeated a sufficient number of times to obtain a truly basal rate.

Tables 1 and 2 record the essential data. Age was taken to the nearest birthday. Standing height was measured without shoes. Weight is recorded in kilo-

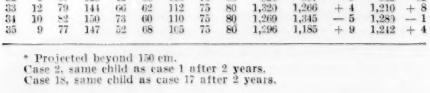

Chart 1.—Basal metabolism of overweight children: Upper curve shows individual percentage of deviation from normal weight; lower curve shows corresponding individual percentage of deviation from normal basal metabolism. There is no relationship between the two curves, thus proving that the prediction of basal metabolism from body weight is of no value. As the girls and boys did not show any essential differences in their basal metabolism-weight relationship, the two sexes are combined in this chart.

grams, in indoor clothing without shoes. The nutritional state was measured by the Pirquet [3] pelidisi, the Baldwin-Wood scale,[4] and the Pirquet-Camerer scale.[5] Table 3 summarizes the data by age and sex.

3. Pirquet, Clemens: System der Ernährung, Berlin, 1919; An Outline of the Pirquet System of Nutrition, Philadelphia, W. B. Saunders Company, 1922.
4. Baldwin, B. T., and Wood, T. D.: Weight-Height Age Tables: Mother and Child, July, 1923.
5. Pirquet, Clemens: Ztschr. f. Kinderh., 1913.

In chart 1 we have drawn two curves. The upper one is a weight curve showing the deviation from normal of each child, and plotted as an ascending line from the lowest, plus 13 per cent, to the highest, plus 75 per cent. In the lower curve, the variation of each child from his normal basal metabolic rate is correspondingly plotted.

In making metabolism determinations on children of normal build, we use all available standards for comparisons. In cases in which body weight deviates from the normal as much as it does in this series, any standards based on body weight would obviously be of no value. A fat normal child would have a metabolism below that of the average normal child with the same

TABLE 2.—*Essential Data in Girls*

						Nutritional State			Heat Production, Total Calories, 24 Hours				
Case	Age	Sitting Height, Cm.	Standing Height, Cm.	Weight, Kg.	Pulse	Pirquet Pelidisi	Baldwin-Wood % Overweight	Pirquet-Camerer % Overweight	Observed	Pirquet Prediction	Per Cent Deviation	Talbot Prediction*	Per Cent Deviation
1	14	83	160	60	78	102	15	15	1,338	1,377	— 0	1,275	+ 7
2	12	76	144	44	80	105	17	20	1,2-0	1,065	+12	1,168	+ 8
3	12	75	145	47	80	104	20	23	1,350	1,125	+22	1,118	+20
4	6	71	135	39	88	103	20	26	1,050	1,008	+ 4	1,066	+ 4
5	7	68	130	35	84	104	20	21	936	924	+ 1	965	— 2
6	12	71	138	45	84	109	21	28	1,200	1,008	+16	1,017	+14
7	9	77	148	41	60	100	22	27	1,145	1,185	+21	1,148	+25
8	6	65	125	32	64	106	25	22	825	844	— 2	915	— 7
9	12	72	140	50	82	110	26	31	1,200	1,035	+21	1,068	+17
10	8	77	146	44	72	100	30	34	1,200	1,185	+10	1,128	+15
11	10	69	135	41	60	108	31	36	976	952	+ 2	1,016	— 3
12	11	74	142	50	60	108	35	45	1,054	1,694	— 4	1,088	— 4
13	6	61	115	26	06	107	35	30	744	744	0	769	— 3
14	11	77	143	51	70	104	36	40	1,296	1,185	+ 9	1,098	+13
15	10	77	150	59	68	109	40	45	1,256	1,185	+ 5	1,169	+ 7
16	10	78	152	53	69	103	41	47	1,380	1,312	+13	1,183	+16
17	6	61	112	27	72	106	42	35	800	744	+ 7	7-8	+ 2
18	12	73	149	56	80	116	42	42	1,220	1,065	+12	1,158	+ 6
19	9	76	142	47	62	104	45	40	1,265	1,153	+ 5	1,138	+10
20	11	75	146	55	70	109	45	45	1,248	1,125	+10	1,128	+10
21	9	69	125	36	88	108	47	55	984	952	+ 3	915	+ 7
22	11	74	145	57	72	112	48	55	1,208	1,095	+10	1,118	+ 8
23	10	75	143	57	72	112	50	55	1,220	1,125	+ 9	1,098	+11
24	12	79	154	65	82	112	50	54	1,460	1,266	+15	1,205	+21
25	11	78	153	58	70	105	50	56	1,208	1,212	+ 5	1,194	+ 6
26	12	74	147	60	84	115	54	62	1,350	1,695	+14	1,158	+10
27	12	77	146	57	90	108	54	60	1,353	1,185	+14	1,128	+19
28	13	76	153	63	70	115	60	70	1,320	1,155	+20	1,118	+24
29	12	76	149	80	88	108	60	60	1,340	1,155	+16	1,158	+16
30	12	72	139	55	90	120	63	70	1,2-0	1,056	+15	1,057	+13
31	12	79	152	64	78	108	63	65	1,440	1,266	+16	1,183	+21
32	13	79	154	64	82	112	65	69	1,294	1,266	+15	1,2-0	+15
33	13	80	157	81	80	115	70	72	1,525	1,2-0	+19	1,233	+23
34	14	81	160	90	80	110	70	73	1,440	1,312	+10	1,2-5	+13
35	10	69	138	57	08	110	71	74	1,050	952	+10	1,047	+ 9

* Projected beyond 138 cm.
Case 1, same child as case 26; menses established 1½ years.
Case 3, same child as case 25 after 2 years; no menses.
Case 28, same child as case 11 after 2 years; no menses.
Case 22, menses established 8 months.
Case 34, same child as case 29; menses established 1½ years.

surface area, since the proportion of inactive fat is so much greater in the former, while the amount of active protoplasmic tissue is much greater in the latter child, and the basal metabolic rate is determined by the amount of active protoplasmic tissue.[6] We have therefore in this series used such standards of basal metabolism as do not take body weight into consideration.

We have found the Pirquet standard the best single prediction standard for all cases. Pirquet,[7] in studying the relationship existing between heart, pulse rate, and body weight, discovered that the sitting height (height

6. Harris, J. A., and Benedict, F. G.: Biometric Study of Basal Metabolism in Man, Pub. 279, Carnegie Institution, Washington, 1919. Benedict, F. G.: J. Biol. Chem. **20**: 263, 1916. Benedict, F. G., and Talbot, Fritz: Metabolism and Growth from Birth to Puberty, Pub. 302, Carnegie Institution, Washington, 1921; pub. 201, 1914; pub. 233, 1915. Helmreich, E.: Ztschr. f. d. ges. Exper. **53**: 578, 1926. Topper, Anne; and Mulier, Hannah: Effect on Basal Metabolism of Ligating Lower Extremities, Arch. Int. Med. **41**: 655 (May) 1928.
7. Pirquet, Clemens: Ztschr. f. Kinderh. **14**: 211, 1916. Schick, Bela: Das pirquetsche System der Ernährung, ibid. **28**: 62, 1922.

of the trunk) stands in very close relationship to the cube root of the body weight, which relationship remains constant throughout life. The sitting height is easily measured with the simplest apparatus, and its

TABLE 3.—*Summary of Data by Age and Sex*

	Boys			Girls			
Ages	Between −10% and +10%	Above +10%	Totals	Between −10% and +10%	Above +10%	Totals	Grand Totals
6	3	..	3	4	..	4	7
7	1	..	1	1	..	1	2
8	1	..	1	1	..	1	2
9	1	..	1	2	1	3	4
10	7	..	7	4	1	5	12
11	2	..	2	5	..	5	7
12	13	..	13	..	12	12	25
13	1	3	4	1	1	2	6
14	1	2	3	2	..	2	5
Totals	30	5	35	20	15	35	70

application requires only squaring instead of cube rooting and squaring as do other formulas for body surface. The minimal or basal metabolism corresponds to 0.3 cc. milk value for each centimeter of sitting height square (three decinemsiqua), or, translated into calories, two-tenths calory times the square of the sitting height in centimeters equals the basal metabolism. This formula is applicable to adults as well as to children.

We also used the Talbot [8] prediction standards based on height alone. It is interesting to note that the Pirquet and the Talbot standards agree within 5 per cent in most cases (tables 1 and 2). In chart 2 we have plotted the basal metabolic rates as computed from the Pirquet standard. In chart 3, we have correspondingly shown the basal metabolic rates of these children as computed from the Talbot standards.

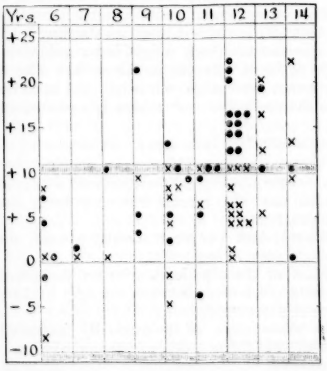

Chart 2.—Basal metabolism in overweight children: Pirquet standard. Twenty, or 29 per cent, were above + 10; fifty, or 71 per cent, were between + 10 and — 10. In charts 2 and 3, boys are represented by x's and girls by dots.

RESULTS

Chart 1 shows at a glance that there is no direct or constant association between the weight variation of any one child and his basal metabolism. This seems to be identical with the results obtained in similar studies with adults.[9]

Chart 2 shows that, according to the Pirquet standard, fifty children, or 71 per cent of all those studied, had a basal metabolic rate within the usually accepted normal range of plus 10 and minus 10 per cent. Twenty children, or 29 per cent of the series, had a basal metabolic rate above plus 10 per cent. There were no rates below minus 10 per cent.

Boothby and Sandiford,[10] in a study of ninety-four obese adults, found that 81 per cent had a basal metabolic rate between plus and minus 10 per cent; 9 per cent of the rates were above plus 10, and 10 per cent were below minus 10. The general tendency in our series of children was toward a higher rate than in the adult series, the majority of cases, however, falling similarly within normal limits.

Chart 3 shows very similar results when measurements were made by the Talbot standard. Here there was a normal metabolic rate in 68.6 per cent; a rate above plus 10 in 28.5 per cent, and a rate below minus 10 in only 2.9 per cent.

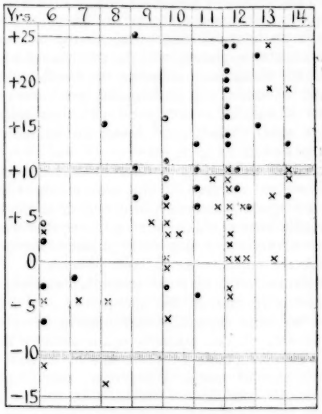

Chart 3.—Basal metabolism in overweight children: Talbot standard. Twenty, or 28.5 per cent, were above + 10; forty-eight, or 68.6 per cent, were between + 10 and — 10. Two, or 2.9 per cent, were below — 10.

We gave further consideration to those cases which did not fall within the normal limits. As a rate above plus 10 per cent is usually considered abnormal, we looked for a possible cause. Clinically, there were none of the stigmas of increased thyroid function. We had eliminated, as far as possible, all causes of a temporary nonbasal elevation in metabolism. Therefore, we considered other factors which might influence the basal metabolic rate.

One important factor which we had not controlled but which must be considered is the diet. These children, for the most part, come from fairly comfortable Jewish homes, where a considerable proportion of the income is used for food and there is a tendency to continued overnutrition. It is now rather generally known that the condition of overnourishment is accompanied by an increased basal metabolism, or a luxury consumption of energy. Atkinson and Lusk,[11] in

8. Talbot, F. B.: Basal Metabolism of Children, Physiol. Rev. **5**: 477 (Oct.) 1925.

9. Plaut, R.: Deutsches Arch. f. klin. Med. **139**: 285 (May) 1922; **142**: 266 (June) 1923. Strouse, Solomon; Wang, C. C., and Dye, M.: Studies on the Metabolism of Obesity, Arch. Int. Med. **34**: 275 (Sept.) 1924.

10. Boothby, W. M., and Sandiford, Irene: J. Biol. Chem. **54**: 783 (Dec.) 1922. Means, J. H.: J. M. Research **32**: 121-158, 1915.

11. Atkinson and Lusk: J. Biol. Chem. **41**: 13, 1919; **32**: 421 (Dec.) 1917.

experiments on dogs, found an increased metabolism which persisted after a course of overfeeding. They conclude that a condition of plethora in the cells increases the basal metabolic rate. Helmreich and Wagner [12] studied nine children, first on a maintenance diet; after a period of from thirteen to thirty-two days, during which they added from 1,200 to 1,900 extra calories to the diet in the form of protein, sugar or fat, they found that the basal metabolic rate after the periods of overnutrition had increased from 6 to 18 per cent after sugar and fat, and from 14 to 25 per cent after protein. In fact, Helmreich believes that the level of the basal metabolic rate is not an absolute one but is higher or lower according to the caloric intake. We are now studying the basal metabolism of several of our obese patients on a greatly reduced diet, and our observations seem to be in accord with this theory.

Another factor, however, must be considered. Table 3 shows that, of the twenty patients with an increased metabolic rate, eighteen were between the ages of 12 and 14, the period of prepubescence, a time when many and significant changes are taking place in the child. There is an increase in growth, an increased activity of the endocrine glands, and an awakening of sexual life, all of which may influence the basal metabolism. Du Bois [13] found a rise in the basal metabolism of boys between 12 and 13, as compared with their metabolism at other ages. MacLeod [14] found an increase in the basal metabolism of girls between 11 and 14. Petenyi and Lax [15] also found an increase in the basal metabolic rate of normal children at this age period. Göttche [16] found a prepuberty increase in the basal metabolism of twenty-nine normal children, an increase that was highest just before and during early puberty but tended to approach the normal rate in later puberty.

Our figures seem to show a similar increase in the basal metabolic rate at this age period. In this connection, we were especially fortunate in being able to study several of our patients again after a lapse of time. Patient 1 (table 1) at the age of 10 had a basal metabolic rate of minus 2 per cent; two years later, with the same condition of nutrition, he showed a basal metabolic rate that had increased to plus 8 per cent. Patient 17 (table 1) at the age of 12 had a basal metabolic rate of plus 6 per cent; two years later, as he approached puberty, he showed a basal metabolic rate of plus 22 per cent, although all other factors remained practically the same. Among the girls (table 2) the changes were even more significant. Patient 26 at the age of 12 had a basal metabolic rate of plus 14 per cent; two years later, after puberty was well established, she did not show any deviation from the normal metabolic rate. Patient 35, who at the age of 10 had a basal metabolism of plus 10 per cent, two years later, in the prepuberty period, showed a basal metabolism of plus 22 per cent. Similarly, patient 11 showed a marked increase in the basal metabolic rate as she approached puberty, while patient 29, who had shown a markedly increased basal metabolic rate at 12 years, became normal at the age of 14.

Of course the dietary factor, which we did not control, cannot be entirely eliminated. But in most of these cases the condition of nutrition did not change materially during the lapse of time; therefore, perhaps, we may trace some connection between the increased metabolic activity and prepubescence in these cases.

Furthermore, a larger proportion of the girls showed this increase in basal metabolism between the ages of 12 and 14. If there is an increased basal metabolic rate at the prepubescent period, the fact that this period occurs somewhat later in boys than in girls might account for the greater proportion of girls showing a markedly increased metabolic rate in our series. Bedale [17] found a prepuberty increase in the basal metabolic rate of girls occurring earlier than in boys.

Talbot [18] states that during puberty there are a number of children with enlargement of the thyroid gland. He thinks that this increase is due to an overactivity of the gland, at this age period. Janet [19] also suggests that there may be a physiologic hyperthyroidism at the period before puberty. We believe that there may be a temporary dysfunction of the thyroid gland at the period of prepuberty and early puberty, which may be accompanied by no other sign than a temporarily increased basal metabolic rate. This can be demonstrated only by frequent tests repeated in individual cases during this important age period. We are endeavoring to study such cases in our clinic.

SUMMARY

The data obtained in studying the basal metabolism of seventy overweight but otherwise normal children are recorded in tables 1 and 2 and summarized by age and sex in table 3. The results are graphically plotted in chart 2 according to the Pirquet standard, which is based on sitting height, and in chart 3 according to the Talbot standard, which is based on standing height. All standards that take body weight into consideration were thought to be of no value in this series. The relationship between percentage overweight and basal metabolic rate is shown by two correspondingly plotted curves in chart 1.

The outstanding facts are as follows:

1. The majority, or 71 per cent, of these overweight but otherwise normal children showed a normal basal metabolic rate, the general tendency being toward a high normal rate.

2. Twenty-nine per cent showed a basal metabolic rate above plus 10 per cent.

3. Most of these patients with an abnormally high basal metabolism were between the ages of 12 and 14, the prepuberty period.

4. In these cases of a markedly increased basal metabolic rate, there was a greater proportion of girls than of boys.

5. The boys showed this increase in basal metabolism somewhat later than did the girls.

CONCLUSIONS

1. The basal metabolism of overweight but otherwise normal children is usually normal, with a tendency toward a high normal rate.

2. There is an increased basal metabolic rate in a certain percentage of overweight children which may be partly accounted for on a basis of continued overfeeding.

12. Helmreich, E., and Wagner, R.: Ztschr. f. Kinderh. **38:** 206, 1924. Helmreich, E.: Biochem. Ztschr. **146:** 153, 1924.
13. Du Bois, E. F.: Clinical Calorimetry XII, Arch. Int. Med. **27:** 887 (June) 1916.
14. MacLeod, G.: Studies of the Normal Basal Energy Requirements, Diss. Col. Univ., 1924.
15. Petenyi, G., and Lax, H.: Der Grundumsatz in Pubertätsalter, Monatschr. f. Kinderheilk. Bd. **36:** 381 (Sept.) 1928.
16. Göttche, O.: Die Pubertatsreaktion, Monatschr. f. Kinderh. **2:** 22, 1926.
17. Bedale, E. M.: Proc. Roy. Soc. Med. **94:** 368, 1923.
18. Talbot, F. B.: Monatschr. f. Kinderh. **27:** 465 (Feb.) 1924.
19. Janet: J. méd. franç. **12,** June, 1923.

3. There may be some association between the prepuberty period and an increased basal metabolic rate. During this age period, many and significant changes are taking place in the child. There is an increase in growth, an increased activity of the endocrine glands and an awakening of sexual life, all of which probably influence the basal metabolism of the child. We believe that there may be a temporary dysfunction of the thyroid gland at this period which may be manifested by no other sign than an increased basal metabolic rate.

4. If there is an association between prepuberty and an increased basal metabolic rate, the fact that this period occurs somewhat earlier in girls than in boys might account for the greater proportion of girls in our series who showed a marked increase in basal metabolism at this age period.

5. Further studies in individual cases during this important age period are necessary.

ESTIMATION OF OBSTETRIC AND GYNECOLOGIC RISKS

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Some months ago an operative case with a fatal ending was being discussed at a staff meeting of the department of obstetrics and gynecology of the University of Michigan hospital. After reaching the conclusion that there had been an error in estimating the operative risk in this particular case and that it probably would have been better if the operation had not been performed, the head of the department ruled that the risk of every operative procedure be estimated and made a part of the record prior to the operation. Immediately the troubles of the departmental chief began, for the staff members naturally asked for an outline to serve as a guide in the estimation of such risks.

The preparation of guides for the proper evaluation of operative risks in obstetrics and gynecology should not have presented any particular difficulty since the greater part of one's practice consists in determining such risks, and deciding for or against operation as a method of treatment. Is it not true, in fact, that one's professional reputation depends in the final analysis on success in the estimation of such risks? Do we not consciously or unconsciously place obstetricians and gynecologists into two general classes, radicals and conservatives? What constitutes a radical in this line of work? We may not have thought it out but we have been answering this question in our own minds all our lives. A radical in obstetrics is he who intervenes surgically at the slightest provocation. If the parturient fails to have labor pains on the estimated date of confinement, the radical advocates and practices medical or surgical induction of labor. He is an advocate of substituting the other fetal pole for the presenting part. He dilates or divides the cervix rather than wait for the natural processes to accomplish this. He has no use for the test of labor; if there is doubt he favors early cesarean section.

There is no need to carry the description further. We all recognize the type of obstetrician described. Whether backed up or not by sound obstetric knowledge, he belongs to the class that used to include the bold surgeon of years ago. There is a glamor about such a person, but not so much as there used to be. The end-results of the work of such a man are open to question when these results are tabulated and published, if they ever are, for men of this type do not have the patience for such work. Is it not true that when the man is a marked radical we speak well of his skill as an operator and choose some one else for the members of our own family?

The conservative is of the exact opposite type. He may be as skilful an operator as the radical but his indications for surgical interventions are far more restricted. Without being timid, he withholds his hand until obliged to intervene and is intellectually satisfied when the woman has had her baby without the aid of surgery.

By conservative is not meant the old type of obstetrician, the surgically untrained man midwife who waited and gave nature a chance not because he carefully weighed and balanced two procedures and decided on conservatism as safer for both mother and child, but because he feared major obstetrics. This type of man errs as greatly through the sins of omission as does the radical by sins of commission. The true conservative obstetrician today is surgically trained and capable of skilfully intervening whenever the safety of mother and child may so demand. However, the dominant thought guiding his work is that the woman before and during labor should be assured delivery by natural processes whenever those are best and safest.

The same types of gynecologist exist. The radical is much more interested in the number of women he operates on daily or monthly than in those he has cured or benefited without operation. He is perfectly willing to take chances and to operate in desperate cases when prudence or consideration for the patient should have counseled delay. He may be well trained surgically or he may belong to the numerically large class who have more ambition than training, in which boldness arises from ignorance.

The conservative in gynecology is just the reverse of this picture. He is perfectly trained and able to operate but considers surgery only one form of treatment. He avoids unnecessary risks and is not disappointed if his patient recovers without operation. Just as in the obstetric division of this special field of medicine, the man with the conservative type of mind may be less brilliant than his radical colleague but he is more dependable. If he advises a surgical procedure both profession and laity have more confidence in his advice than in that of the other type of man who apparently always advises the use of the knife.

After all, some one may justly say, these are but reflections; we recognize these two classes and always have—what we want is something tangible that will help us in the determination of risks in obstetrics and gynecology. I have done the best I could to work out rules for the determination of such risks but I fear that I have not been entirely successful. By this I mean that it is difficult to standardize this problem and in this day and age we are restless and somewhat suspicious when standardization presents difficulties. However, I can show how I have attacked the problem, give my results and let them be judged.

REVIEW OF PAST RECORDS

To determine the risks of operative intervention under different conditions we must turn to our past records. This is necessary, for without some such

study we deal not with facts but with impressions. And for conclusions to be of any value the records must have been well kept and accessible through an index and cross index. Fortunately, since 1901, the records in the department of obstetrics and gynecology, about 35,000 in all, have been well kept—which does not mean that they could not be improved on, because they are being changed and improved all the time. Yet they can be utilized for the task described and with the aid of the staff this has been attempted. Needless to say, the attempt has not been made to ascertain the risks in these thousands of cases. Such a task would have been almost hopeless and perhaps useless, for the risks of operative intervention today are much less or should be much less than was the case two decades ago. Hence a better picture of risks would result from a study of the records of certain cases over a comparatively short time; for example, since the opening of the new University Hospital in August, 1925.

PROCEDURE AT UNIVERSITY OF MICHIGAN CLINIC

Before considering the results of operative treatment and its accompanying risks in any clinic, it is absolutely necessary to set forth the aims of such a clinic; that is, what it is trying to accomplish. Obviously, a clinic that is largely made up of private patients, in which the work is performed by one man or at most by a small group of men, should show better results than a clinic whose prime object is to teach a group of the younger men operative methods, giving them as much practical experience as the rights of the patients making up such a clinic will permit.

The obstetric and gynecologic department whose operative results I am about to give belongs to the latter class. Besides teaching undergraduates, the staff members are doing real graduate work in a particular field. They serve three years as instructors after their two resident intern years. From simple tasks and little responsibility they are trained so that in their last fifth and senior year they do quite a bit of major work in obstetrics and gynecology. All the patients in the clinic are seen by the chief or his associate, and all operative treatment with attendant risk is decided on or rejected after consultation with the operator. If it is decided that operation is indicated but that the risk will be great under the best of circumstances, the more experienced operator is assigned to the case. In other words, the safety and welfare of the patient is always the first consideration. Yet it is felt that the graduate student willing to devote the necessary years to perfect himself in special work should be given every opportunity.

As in every well managed clinic, the patient's general condition in all its phases is thoroughly studied prior to surgical intervention. No patient is placed on the operating list for the day until a thorough investigation of her condition has been made by members of the staff, other special departments of the hospital being appealed to as the case may require. In other words, the staff members at the beginning of their service are expected to perfect themselves in the technic of physical examinations as a whole, so as to recognize the need of special examinations. Never has it been the custom of the clinic to refer the patient to the different departments of the hospital, without the existence of certain symptoms or observations calling for such reference.

It is only through some such system that men can train themselves to estimate operative risks properly. Today it is not sufficient merely to examine the urine to determine whether or not it is safe to operate. To estimate the operative risk at the present time, a man must be as well grounded medically as surgically. Otherwise the obstetrician and gynecologist will be responsible for many sins of commission which could have been avoided by greater knowledge and care.

THE TYPES OF OPERATIONS PERFORMED AND THEIR MORTALITY

From the opening of the new hospital in August, 1925, to January, 1929, 1,734 patients have been operated on in the gynecologic clinic, with sixteen deaths, or a mortality of 0.58 per cent. Such figures without further elucidation mean little. With certain kinds of operative work, when due care is exercised in the examination of patients prior to operation and in the rejection of all with organic disease which would make the mere administration of anesthesia dangerous, there should not be any mortality, and such we find to be the case when the figures are further studied and analyzed; for these 1,734 patients may be divided into two groups, the first consisting of 527 patients on whom major operations were performed and of whom sixteen died, a mortality of 3 per cent, and the second of 1,208 patients who were subjected to minor operations such as plastic operations on the anterior or posterior vaginal walls, repair or amputation of the cervix and diagnostic dilation and curettage. There was no mortality in the last group consisting of more than a thousand patients, so it would seem fair to say of this large group that the operative risk is good. This is dividing risks into three large groups, good, fair and poor. Even here accuracy in preoperative judging of risk will not be obtained unless the patients are subjected to the most careful preoperative physical examination.

For example, failure to detect serious disease of the lungs, heart, liver and kidneys may result in postoperative death. Such patients should not be subjected to operative risks when all that can be expected of the operative procedure is to render the patient more comfortable. In such a category are included plastic operations on the pelvic floor and many of the operations just enumerated. It is foolish and indicative of poor judgment to subject such patients to operation. That is why any scheme for preoperative determination of operative risk is of great value. In case of a fatality either the operator must plead ignorance of the preoperative condition of the patient, when he is guilty of a wrong estimation of operative risk, or he is responsible for almost inexcusable slips in operative technic. Without being unduly critical it may be stated that there is undoubtedly a great deal of such work being done throughout the country. Such fatalities are rarely reported. When the most searching staff meetings are not held, such cases may be the gossip of the day but are excused and passed over, since the operator's colleagues are more than generous on such occasions.

Turning now to the other group, there were 527 out of the 1,734 patients on whom major operations were performed with sixteen deaths, or a mortality of 3 per cent. Although the system of estimation of operative risks had not been inaugurated when these operations were performed, that is, the risk was not recorded in black and white in the records, a study of the fatalities showed that the patients had been most carefully examined and the risks considered.

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During this period also, after careful study, operation was decided against in quite a proportion of cases. For example, if there existed a serious lesion of the heart or kidney, operation was often voted against on the ground that the operative risk was too great and that the patient would probably live longer without operation.

Among the 527 major operations were 311 hysterectomies with and without accompanying removal of the appendages, with fourteen deaths, or a mortality of 4.5 per cent. This seems to be and probably is a rather high mortality and on the face of such figures apparently the preoperative risk for a patient about to undergo a hysterectomy should never be given as good but only as fair. Further study of the records, however, shows this to be incorrect and the estimated risk more in accordance with what one would expect. Seven, or one half of the deaths, occurred after hysterectomy for long existing inflammatory disease and usually treated by a panhysterectomy with bilateral salpingo-oophorectomy. This is the ideal treatment in this class of cases, but is quite hazardous except in the hands of an expert, for it is time consuming and death from shock not infrequently is the outcome. Thus it can be seen that the risk varies from good to bad in such cases, depending on the type of operation attempted, on the condition of the patient at the time of operation and, largely, on the skill and experience of the operator.

It must be borne in mind that never is the woman with pelvic inflammatory disease subjected to operation except after long continued conservative treatment. After the latter has failed and the patient begs to be cured, so that she may return to work, only then is the radical operation considered. If in other ways, through impairment of the heart, lungs or kidneys, the patient's condition is poor, the risk is considered so hazardous that operation is refused.

It is not difficult to realize why under such varying conditions it is almost impossible to standardize operative risks. Risks can be estimated only in a general way, although an estimate should be made in every instance as a check to careless or routine operating without careful preoperative study of the patient's condition, local or general; for who is to say at a staff meeting that the attending surgeon is deficient in judgment of the operative risk or that he is wanting in skill or experience? This can be done with graduate staff members but is hardly feasible at staff meetings of attending men. Criticism, by indirection, however, is perfectly possible. If the records of the operative cases with fatal endings are considered carefully and explanations demanded and discussed, while the individual surgeon will be excused for poor results in one or a few instances, a continuation of such results, especially if unfavorable as compared with those of other staff members doing similar operations, will work wonders with that particular operator. Gradually it will dawn on the most careless or conceited surgeon that there is something he may yet learn whereby his results may be improved.

Is it not appalling to consider the unchecked surgical work going on throughout the country in poorly organized and poorly managed hospitals? There is practically no preoperative study of the patient, no contemplation of the risks of operations dangerous in the most skilled and experienced hands, performed by those with no training in the most nonchalant manner possible. Reforms must come from within the profession—not from a public that has to be protected from stock swindlers. The solution lies with the hospital. To merit hospital facilities the surgeon must conform to reasonable hospital requirements, which must of necessity become stricter each year, as demands for better work increase.

Among the 311 hysterectomies were seventeen radical abdominal panhysterectomies for cancer of the cervix with two deaths, or a mortality of 11.8 per cent. Irrespective of the ultimate results of such operations and of whether such radical operations should be abandoned in favor of treatment by radium, it may be said that radical abdominal panhysterectomy for cancer of the cervix will always probably be followed by a high primary mortality varying from 8 to 20 per cent, depending on the extent of the cancerous disease at the time of the operation, the extent of the operation itself, the general condition of the patient and, above all, the skill and experience of the operator. No operation of this kind carries with it a good risk. Under favorable conditions the risk may be considered fair; usually it is poor and the operation is justifiable only if accompanied by good end-results.

Malignant disease of the appendages, however, if operated on early before the stage of metastasis, may have the same operative risk as goes with benign disease of the same organs. This applies to adenocarcinoma of the ovary which has not extended beyond the tumor capsule. When extension is beyond this area, and when the diagnosis of carcinoma can be made through adhesions of the neoplasm to surrounding structures, through palpation of hard nodular masses in the posterior culdesac and through the presence of abdominal ascites, not only is the operative risk poor but it is very questionable whether operation is ever justifiable. In other words, experience has shown that patients thus affected live longer and more comfortably if they are not operated on, palliative measures such as abdominal paracentesis not being considered as operations.

Combined operations were performed on the 1,734 patients subjected to operation to the extent that in all there were 2,744 operations—over 1,000 more than the total number of patients. This means that the custom prevailed in the clinic of combining plastic operations on the pelvic floor with abdominal work in order to spare the patient the discomfort and expense of operations at two or more sittings. In this connection the appendix was removed when its appearance indicated that it might be diseased in 115 cases without mortality. Nor was there mortality in those cases in which plastic surgical operations were combined with abdominal work. This is as it should be, for experience has shown that combined gynecologic operating was carried to an extreme in the past and accounted for a considerable percentage of the mortality. Operators without particular skill strove to emulate more dexterous and rapid operators in what could be done at one operation. The result was prolonged operations with too great loss of blood and death from shock. It is the rule of our clinic that the risk of combined operations must be estimated on that basis. Almost never are plastic operations added to abdominal work which in itself may be hazardous. Such combined operating increases greatly the operative risk, and the plastic part of the work, not being absolutely necessary at a given time, is ill advised. When the fatalities from such combined operations are reviewed, the surgeon should be held accountable not for the more hazardous abdominal work but for the plastic work, which in itself should not carry with it any mortality.

Another objection to such combined operations, especially when on or in the neighborhood of the rectum, is that in a certain proportion of abdominal operations the lower rectum must be utilized to relieve or nourish the patient. There should be no handicapping of such efforts by resulting pain or sepsis when the parts have been subjected to operation.

METHODS OF LOWERING MORTALITY

It has long been realized that the diabetic patient is a poor operative risk. Even in mild cases of the disease suppurating wounds or fatal coma may follow even comparatively simple and short operations, the risk being proportional to the severity of the operation and its duration.

I have reviewed the records of patients with various gynecologic lesions who also had diabetes. We have had twelve such patients. The impression that the number was greater probably arose from the thought and attention given this group to decide whether or not operation was justifiable.

When the glycosuria was discovered, the twelve patients were referred to the department of internal medicine and were considered again in the gynecologic clinic only when sugar free. Seven of the patients were operated on without fatalities. One was a patient with extensive inflammatory disease of the appendages who had remained sugar free by diet for nearly a year. She was subjected to a supravaginal hysterectomy and bilateral removal of the appendages. She had a stormy convalescence with an alarming return of the glycosuria followed by a suppurating abdominal wound. This patient should not have been subjected to operation, as the risk was too great. The same error was made in the cases of two women, aged 53 and 65, respectively, with marked prolapse. Each recovered after plastic operations, but convalescence was a source of great anxiety. Fortunately in each case the diabetes was mild, else the result probably would have been different. Minor operations were performed on the other four patients, who made good recoveries. The other five patients either could not be made sugar free or operations were advised against.

In a condition that threatens life in a patient with mild controllable diabetes even serious operations may be advised, but the risk is always poor. With uncontrollable diabetes, no time consuming operation should be advised since the patient practically does not have a chance. No matter what operation is performed on the diabetic patient whether she is sugar free or not, the operative risk can never be considered good. It may be at times fair, but it is always poor in severe prolonged operations.

Blood transfusion and intravenous injection of dextrose solution have had a marked effect in lowering operative mortality. No patient with a marked secondary anemia should be operated on until every effort has been made to check the loss of blood and, by transfusion and other forms of treatment, to raise the hemoglobin to within safe operative limits. There can be no hard and fast rules as to what this limit is. The old rule that it is safe to operate on uterine fibroids if the hemoglobin is above 25 is not backed up by further experience. There is a simple rule of the clinic that the risk is good if the color index is 70 or over, fair between 70 and 50, and poor below that point. However, these figures are arbitrary and are not so important as the nature of the operation—a prolonged operation with even a moderate blood loss is hazardous in an anemic patient. It may be necessary but it is a poor operative risk.

Transfusion on the operating table is a means of saving many lives. This method is far superior to any intravenous injection method formerly employed. However, it necessitates the routine blood typing of every patient to be operated on in order that one may be prepared to utilize the method in the exceptional case in which it may save a life. Furthermore the donor must be on hand, for delayed transfusion may not be successful.

Only rarely in ectopic pregnancy is it necessary to operate immediately after the tubal rupture. Marked loss of blood means as a rule death of the ovum and gives sufficient time to treat the anemia, so that operation is not too poor a risk. During the time under consideration there were twenty-six operations for ectopic pregnancy with no deaths. One patient with a combined ectopic and normal pregnancy was moribund on entrance and naturally was not operated on. Of the twenty-six patients, sixteen had a hemoglobin of 70 per cent or over and seven a hemoglobin between 50 and 70 per cent; in only three was the color index below 50.

If space permitted, a discussion of operative risks would lead to the consideration of other complicating conditions which must be carefully studied before the risk can be determined. Pulmonary tuberculosis and other lung conditions, hyperthyroidism, cardiac disease, hypertension from various causes—all these must be carefully studied in conjunction with those having special knowledge of such conditions. Failure to recognize these complications means that many important data for the determination of operative risk are missing. My late colleague Dr. Charles B. de Nancrède was wont to describe himself as a medical man who operated. Today the successful surgeon, general or special, must have a thorough knowledge of general medicine. Lacking such knowledge, his patients will be subjected to additional operative risks.

It is unnecessary in this paper, chiefly intended to be suggestive, to describe our investigations into operative risks in obstetrics. The task is even more complicated than in gynecology, for almost always two risks must be considered—to the mother and to her child. When the latter is disregarded, maternal risk may be lessened but only through a partial defeat, since the main object of surgical intervention is to save both mother and child. That is why the problem of estimating operative risk in obstetrics is at once so difficult and yet so interesting. From the early months of pregnancy each obstetric patient presents a problem in risk. Will this particular pelvis permit the passage of the ordinary sized child? If one must intervene, what are the maternal and fetal dangers in the presence of abnormalities and disease? Are the operative risks increased by delay? In case immediate intervention is indicated, what are the operative risks, maternal and fetal? Is it worth while to increase the maternal risks for the sake of a child who may not long survive? These are only a few of the questions that will arise in the consideration of maternal and fetal operative risks, often complicated by the fact that the obstetric surgeon must deal with emergencies much oftener than is the case in gynecology. Obstetric surgical intervention cannot be routine but must be more varied than the technic of routine gynecologic operations. However, in spite of difficulties which are bound to be encountered, it is

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perfectly possible to draw up working rules for the estimation of obstetric operative risks. The review of fatalities in which these risks have been estimated prior to the operative intervention will be productive of the same good results as in the gynecologic field. Even more so, for the sins of commission in obstetrics are more open to errors than in gynecology, while fatalities from nonintervention which have equal weight in obstetrics are counted against the obstetrician.

SUMMARY

What, then, if anything, has been learned by my investigations of mortality results and risks in the clinic I am interested in? How can these figures be utilized as a working guide to aid in the determination of operative risks? While this is my immediate problem it may well be considered the problem of every hospital in the country, since before many years all will be required to give the results of medical and surgical treatment in reports which will be true and correct audits of the work in departments and in the hospital as a whole; for up to the present the medical portion of hospital reports has been remarkable merely as demonstrating how many pages could be wasted in absolutely worthless data. Not that the intimate facts brought out by tabulation of individual risk records should be made public. Such statistics are solely for staff study in an endeavor to improve the efficiency of the organization.

Estimation of operative risks is based on two factors: the nature of the operation and the condition of the patient who is to undergo such an operation. Hence it follows that the most searching investigation must be conducted regarding the patient's condition before any estimate of preoperative risk can be made. Postoperative histories show that such investigations are not always successful, even though conducted with the greatest care. Within the past week a patient subjected to supravaginal hysterectomy for an uncomplicated uterine fibroid, whose physical condition before the operation was perfectly normal, died suddenly on the tenth day after operation. Autopsy showed two-thirds replacement of muscle tissue by fat in the right side of the heart. We have had one other such case in which a patient with a similar lesion died during quite a simple operation. As far as can be judged, such a condition could not have been diagnosed with any degree of certainty before the operations.

Such cases, however, are exceptional, since as a rule the patient's condition from the operative standpoint can be quite accurately determined. As a proof of this may be cited more than a thousand minor operations without fatalities.

A good risk, therefore, is one in which the general condition of the patient is excellent and in which the local condition calls for an operative procedure that experience has shown can be performed reasonably quick without undue loss of blood. The expectation is that such a patient will recover and a fatality must be explained. Operative inexperience or errors in technic whereby the operation is unduly prolonged, or too much blood is lost, quickly change a good into a fair or poor risk.

A poor risk is one in which the operation must be performed but in which the patient's chances of surviving the operation are not good or even fair. In gynecology this class of risk includes patients with serious disease of the lungs, heart or kidneys who must be operated on without delay as the only chance of preserving life. They are not emergency cases in the sense that an accident case is an emergency, although operation must be immediate in spite of the general condition of the patient. As examples may be cited accidents to neoplasms of the uterus or appendages involving rupture or shutting off of the blood supply, and sudden and continuing loss of blood, in which the hemorrhage can be controlled only through an abdominal incision, as in marked bleeding from a ruptured ectopic pregnancy.

Patients with histories of long continuing suppuration from whatever source are poor operative risks. This is especially true when the septic condition is a complication of serious organic lesions, especially of the heart and kidneys. Patients with absorption from cancerous disease are poor risks even for simple operations, and very poor risks when the operation involves the opening of the peritoneal cavity and extensive dissection. The same applies to suppurating disease of the appendages. Septic absorption from whatever source increases operative risk, and the latter may be considered poor when extensive abdominal operations must be performed.

Fair risks are between the good and poor risks just defined. Any deviation from the two sides of the equation which must exist to make the estimate a good risk may not change it into a poor risk but make it only fair.

Organic disease of the heart or kidneys, while not precluding elective gynecologic operations, may change the risk from good to fair and raise the question whether, after all, other than surgical treatment may not accomplish as much and be far safer. In other words, more explanation must be made for a fatality following a risk estimated as fair than when it has been judged good or poor.

Further than this I would not go in any attempt to define the different kinds of operative risks, for, after all, one cannot do the thinking for the surgeon. One can make suggestions, but it remains for him to work out his own salvation, and he will progress by so doing much more than by trying to estimate operative risks by any rule of the thumb.

From the foregoing I would not have it thought that I am out of sympathy with the attempts at standardization of operative risks being made by certain outstanding hospitals. The whole question, as I have intimated, is bound up in the welfare of the hospital and must be worked out by those having the charge and the responsibility of such hospitals. I would have hospitals go forward slowly but surely on this question of estimating operative risks. I would have them insist that it be done, explaining why it is for the best interests of the hospital and its staff to reduce operative mortality to a minimum by such an estimation. It should be explained that the review of operation fatalities and the checking up of what actually happened after the risks were made a part of the hospital record does not imply criticism of any individual staff member's work but is done solely to improve the efficiency of the hospital. Members of a surgical hospital staff who resent such work and refuse to cooperate and learn by experience will eventually be obliged to give way to others more enlightened; for the work we have been studying must develop and go on, since the survival of the hospital will depend on how it solves the problem.

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THE DIAGNOSIS AND TREATMENT OF CHRONIC TUBERCULOSIS OF THE KIDNEY *

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I have been studying the problems related to the pathology, diagnosis and treatment of chronic renal tuberculosis for more than a quarter of a century and, in preparing this paper, have gathered together the experience gained during these last thirty years. I have reviewed my records of the last fifteen years with considerable care and have used the data gathered in more than 300 cases.

The recognition of tuberculosis of the kidney as a surgical condition has been a development of comparatively recent years. Under the influence of some of the leaders of French urology, the surgical treatment of renal tuberculosis was somewhat delayed; but at the present time chronic surgical tuberculosis limited to one kidney is universally considered as belonging in the realm of surgical therapeutic endeavor.

With the development of the cystoscope and more accurate methods of diagnosis, together with the accumulated experience of clinical observation of the excellent results following nephrectomy, this disease has become recognized as definitely belonging in the field of the surgeon's activity.

Although the clinical picture of the disease is varied, still in a vast majority of cases the picture is so nearly the same that the general practitioner ought to suspect it and make a correct diagnosis. In the more unusual clinical courses, it is often difficult for the general practitioner even to suspect the underlying condition. In the determination of the exact urologic condition the urologist, naturally, has to be called in to decide whether the kidneys are to be incriminated or the genital tract is responsible. In females the situation, naturally, is much simpler as the genital tract rarely complicates the urinary picture.

With the development of renal tuberculosis, the most characteristic symptoms are referable to the bladder. In the majority of cases urgency, frequency, burning at the neck of the bladder or in the urethra during micturition, and pyuria with or without microscopic or macroscopic hematuria are the outstanding symptoms. Methenamine, which is ordinarily administered to relieve bladder symptoms, is seldom of assistance and frequently irritates the bladder. Irrigations of the bladder also rarely help. If there is any improvement, it is usually transitory. For months, as a rule, such patients are given treatment for subacute or chronic cystitis, and only when the physician fails to get a definite result after all this effort does he refer the patient to a more competent diagnostician. This should scarcely be necessary, as every persistent pyuria deserves cultural study, including a search for tubercle bacilli in the smear as well as guinea-pig inoculation if the catheterized urine is found to be sterile.

A great many patients are seen with this symptom complex who have been treated for months or even a year or more without any accurate diagnosis as to the cause of the trouble, when such simple procedures as those just mentioned would immediately clarify the etiology. Every practitioner should be on the lookout when patients have pyuria and persistent irritation of the bladder, especially in women and men between the ages of 20 and 40, when tuberculosis of the kidney is most common, though both before and after these two decades the disease is not infrequent.

Some of the patients with renal tuberculosis present quite a different picture, which simulates nephrolithiasis. They have pain in the kidney, more or less colicky in character, sometimes associated with attacks of bleeding. In these patients the irritation of the bladder at first may be fairly marked and then subside. As roentgen examination in some of these patients may show definite shadows of more or less porous-looking calculi in the kidney region, the diagnosis of renal stone may be erroneously made. This type of case will probably seldom be recognized by the general practitioner and requires frequently the most careful urologic and roentgenographic study.

The third type of patient presents himself with a history that suggests either essential hematuria or renal neoplasm. There is massive bleeding associated with more or less distress or colicky pains corresponding to the ureter, and the hematuria may be so marked as to lead to clotting in the bladder or as to threaten exsanguination. In this type of case, again, the practitioner will usually be at a loss and require the assistance of a urologist.

The fourth type that I have seen is perhaps one of the most confusing of all. In a small percentage of the cases that have come under my observation, instead of the usual bladder irritation there are no signs of frequency or urgency, the patients have a pyuria which is apparently not explicable, and they do not have any renal symptoms to suggest that a serious pathologic condition is present.

A fifth variant in the clinical picture is presented by a considerable group of cases which begin as the first and common type with all the usual signs of vesical irritation, and these gradually subside, apparently because of the therapeutic efforts or nature's activities. In these patients the kidney has become excluded from the bladder by stricture formation in the ureter usually at the bladder orifice or close to it, and, as the tuberculous urine no longer is poured into the bladder, the irritative phenomena cease and the urine becomes clear. Unless the proper studies have been made during the stage of pyuria, diagnosis will be impossible without the aid of the urologist.

A sixth puzzling picture is presented by those rare cases that simulate subacute or acute pyelonephritis. Even the urologist will have difficulty in recognizing these unusual cases. Whether they are always cases with superadded mixed infections, I have not as yet been able to determine.

A seventh type presents itself as a perinephric suppuration, and the suspicion of tuberculosis may not be entertained until the persistent sinus following the drainage operation demands a nephrectomy and the kidney presents all the pathologic earmarks of renal tuberculosis.

The family history and the past history of the patient will occasionally suggest to the practitioner the possibility of a tuberculosis being present in the urinary tract. If there is a definite family history, or the patient has had attacks of pleurisy or pulmonary tuberculosis, involvement of joints or the spine, cervical adenitis, chronic epididymitis, and the like, the suspicion that the persistent pyuria is tuberculous will naturally be aroused; and if the practitioner bears in mind the more frequent typical courses that renal tuberculosis runs,

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with moderate laboratory help he should readily be able to turn the patient over to the urologist with the definite statement that this patient has a urogenital tuberculosis (if a male) or urinary tuberculosis (if a female). This goal has not been achieved as yet.

The general health of these patients rarely suffers unless mixed infection with chills and fever develops. They may lose in weight because of the nocturia which interferes with sleep, but as long as the disease is unilateral and no massive hematurias have taken place, it is surprising how well they stand their incompetent medical attention. When the disease is bilateral, unfortunately in from 10 to 20 per cent of the cases, lassitude, anorexia, loss of weight, pallor, disturbed renal excretion and disturbed protein metabolism develop, and the patients become suburemic or uremic. Gradually they go downhill and often within a year or two of the inception of the bilateral involvement, die of renal insufficiency, pulmonary tuberculosis or miliary tuberculosis.

Most patients come to the physician's offices more or less disgusted with the treatment that they have had, and give one of the typical histories briefly sketched here. Physical examination of the kidney is of little value. The involved kidney may be enlarged—at times very large, especially if excluded and hydronephrotic or pyonephrotic. At times, the other kidney which is healthy seems the larger. Tenderness may be present but usually is negligible. Vaginal or rectal examination may allow of palpation of the thickened rigid ureter which is of real diagnostic import. With the aid of cystoscopy and ureteral catheterization, the definite diagnosis is made in the majority of cases in one examination. The proof that tuberculosis is present demands the finding of the bacillus of tuberculosis; but, on the other hand, a definite knowledge of the picture induced in the bladder by tuberculosis of the kidney is frequently sufficient to establish the diagnosis, even in the absence of a positive smear or guinea-pig test. Many patients that cannot be examined repeatedly, owing to the condition of the bladder, can have the diagnosis established by the competent cystoscopist who locates the side of the disease and makes certain that the second kidney is not involved. Although cystoscopy can usually be performed under local anesthesia, in some cases the bladders are so sensitive, as a result of ulcerations and contraction of the lumen, that caudal, spinal or gas and oxygen anesthesia may be necessary.

The cystoscopic picture of the secondary cystitis caused by the renal tuberculosis is quite varied and rather difficult to describe, as many pathologic lesions are liable to be present at the time of examination. In the earlier cases there is rarely more than a hyperemia with or without a slight rigidity of the lips of the ureteral orifice. As the disease progresses, the adjacent mucous membrane becomes involved, mottled with small hemorrhagic spots, and the ureteral orifice becomes more rigid and edematous. At times the edema becomes even polypoid, suggesting papilloma. Tubercles develop in the mucosa as little whitish yellow spots surrounded by a hyperemic base; some of these break down, and sharply cut out, irregularly shaped ulcers varying in size develop in the mucous membrane. If these ulcers are of any size, their edges overhang, just as in tuberculous ulcers situated on the mucous membrane of other organs.

With the development of ureteritis, there is a distinct shortening of the ureter and the bladder is drawn up toward the kidney so that the ureter region becomes retracted. Many of these ureters become patulous—so-called golf-holed— owing to the extensive scar tissue formation in the wall of the ureter. Some bladders become infected with other germs, and, as a result of the mixed infection, exudate forms and becomes attached to the ulcerated areas, and granulation tissue frequently develops in the ulcer base. As this process develops, more and more of the bladder becomes involved, and, as a result, the bladder becomes contracted and its capacity very much diminished.

These lesions are always, in my experience, most marked at the ureteral orifice on the side of the renal tuberculosis. Occasionally there may be a smaller but much less extensive process at the second ureteral orifice, even though the second kidney is apparently perfectly normal. I have never seen a picture such as that to which Rovsing called attention, in which the normal ureteral orifice presented the evidence of the disease and the ureteral orifice of the diseased side was absolutely or almost normal. Wildbolz [1] has raised a question as to the site of the ulcers and asserts that they are very frequently in the anterior bladder wall. I cannot agree with this, as in the cases that I have studied ulcerations have usually been on the base of the bladder, usually most marked in and about the diseased ureter, although I have repeatedly seen them in the anterior wall as well. In females, ulcerations occasionally extend into the urethra and, at times, may even reach the external meatus. In the rarest cases, caseous masses develop in the bladder wall. These masses, in one case that has come under my observation, were all of sufficient size to suggest large multiple conglomerate tubercles, being 1 cm. or more in diameter and raised well above the adjacent mucous membrane.

On distending these bladders while performing the cystoscopy, one is liable to induce bleeding because of injury to one of the ulcerated surfaces. In early cases, cystoscopy and ureteral catheterization are usually perfectly feasible, but in advanced cases one may have a great deal of trouble in passing the ureteral catheter up the ureter of the diseased side, though the healthy side may be very readily catheterized. This is due to the well recognized tendency of strictures to form in the tuberculous ureter, which prevents the ready introduction of the catheter, even though a small amount of purulent infected urine enters through the stricture into the bladder. These stricture formations may be so extensive as to lead to complete exclusion of the involved organ—so-called autonephrectomy—and many a patient who has had this pathologic change has been relieved of the vesical irritation and apparently has become well spontaneously. A number of such patients that I have seen have subsequently come in because of tuberculosis of the second previously healthy organ, the first having been excluded years before by this stricture formation within the ureter.

The use of indigo carmine (intravenously or intramuscularly) is of great assistance in determining not only the function of the two kidneys but also the location of the orifices in badly diseased bladders. In early renal tuberculosis there may be no delay in the excretion as compared with the second healthy kidney and the concentration may also be unchanged. As the disease progresses, both the concentration of the dye diminishes and the time of excretion is delayed. In early cases the urea concentration may behave in the same way.

1. Wildbolz, Hans: Chirurgie der Nierentuberkulose, Neue Deutsche Chirurgie.

As the tuberculous kidney usually secretes an unusual amount of urine—polyuria—the foregoing dilutions are readily understood and in part explained.

As previously stated, the cystoscopist must try to base his diagnosis on absolute data, and these data are pyuria and the presence of the tubercle bacillus in the specimen collected from the diseased kidney by the ureteral catheter. A sterile pyuria may occur in stone kidney, though it is comparatively rare. It usually means tuberculosis. This finding is encouraging but not of absolute value. In my experience the finding of the Koch bacillus in the smear (when the third test tube was used) is the best evidence of renal involvement. It has proved even more reliable than the guinea-pig inoculation, even though the latter is a more sensitive test. In 18 per cent of the healthy second kidneys examined, I have found the pig positive (corroborated by Braasch [2]), which led some years ago to my studying the significance of tubercle bacilli in the catheterized kidney specimens.[3]

In connection with this study, I was fortunate enough to have had the benefit of Tilden-Brown's ingenuity in perfecting the cystoscope that separates the catheterizing system from the irrigating system. The European instruments with the catheters in the channel wall of the cystoscope are much less satisfactory for careful diagnostic work incidental to the recognition of renal tuberculosis, as, owing to its construction, contamination of ureter specimens is much more likely. The technic in cystoscopic work in the examination of these patients has to be most rigidly careful so as to avoid the accumulating of questionable data on which to base the diagnosis. Contamination of specimens either in transit through the bladder or by reflux up the ureter must be avoided by plugging the catheters externally, by collecting specimens with the bladder empty, and by using only late collections for smears and guinea-pig inoculations. About twelve years ago I called attention to all these points, but I fear that they have not been fully appreciated by the profession as yet. I note, however, that Wildbolz and Braasch have encountered the same difficulties and have emphasized their importance in the diagnosis of unilateral renal tuberculosis as opposed to bilateral renal tuberculosis, of renal tuberculosis as opposed to genital tuberculosis, and also of urogenital tuberculosis as opposed to excretory tubercle bacilluria.

If the cystoscopist employs these precautions and is able to pass a catheter up the diseased side, pyuria and tubercle bacilli almost invariably mean renal tuberculosis of that kidney.[4] In those cases in which the catheters cannot be introduced far enough to yield a series of satisfactory specimens, one often must rely on the characteristic bladder picture, the recognition of the strictured ureter and the finding of tubercle bacilli in the bladder urine, while the specimen from the second kidney does not show pyuria or tubercle bacilli. Complications in the situation arise when the second kidney is not definitely tuberculous and the bladder is badly and diffusely diseased with secondary involvement of the lower end of the second ureter, which one has difficulty in catheterizing well up to the pelvis. In a fair number of cases the second healthy kidney may show evidence of toxic nephritis, albumin and casts, which usually disappear following nephrectomy of the diseased side.

In males, prostatic tuberculosis may lead to a clinical picture, quite similar to the cystitis of renal tuberculosis, and as a fair proportion of these patients, perhaps 15 per cent, may have tubercle bacilli in the bladder urine, one must be on one's guard against contamination of the collected specimens from this source. Unfortunately, in the study of excretory bacilluria, the investigators have usually failed to consider this possibility. Recently Bumpus [5] has rather rashly stated that the presence of tubercle bacilli in the urine is synonymous with renal tuberculosis. In the study of excretory bacilluria, in the future, it would be well to bear this point in mind and make the studies in pulmonary tuberculosis in females only so as to avoid any such possible contaminations as may occur in the male genito-urinary tract. Calmette believes that one must inoculate at least ten tubercle bacilli into a pig to produce tuberculosis, and others state that many thousands per cubic centimeter must be present before they can be found in the smear. Almost all the cases of excretory bacilluria have been checked by the guinea-pig test in its various modifications, the smear being regularly negative. Recently enthusiastic reports on cultural identification have been published both abroad and here. Perhaps in the future these newer methods may be found of practical use in clinical work.

As one peruses the literature carefully, one encounters reports of cases such as Wildbolz [6] presented last year at the urological meeting in Chicago. In his case, positive guinea-pig reactions were obtained from both kidneys, and later he removed the kidney that showed definite pyuria. The patient was cured, and subsequent inoculations were negative. Years ago, I reported repeated bilateral positive inoculations in prostatic and in unilateral renal tuberculosis, and the subsequent course of the cases showed that these confusing results were being obtained because of gross contamination of the catheters, reflux up the healthy side or sides, or, perhaps, excretory bacilluria. I have collected from the literature reports of a number of such cases in which the authors, failing to appreciate these phenomena, have claimed a cure of a tuberculous second kidney by removal of the more diseased mate.

Tubercle bacilli are so characteristic that they can rarely be mistaken for anything else, and when obtained from catheterized specimens gathered with ordinary care, there is little if any danger of confusing them with the smegma bacillus. I have found them in the smear in the last series of 100 surgical cases of renal tuberculosis in 89 per cent of the cases.[7] The most difficult cases in which to find them are the old chronic cases in which the urine is full of pus. Here the antiformin method on large quantities of urine may be necessary. The carbolfuchsin stain with thorough decolorization in acidified alcohol is usually sufficient to demonstrate the bacilli. In many cases the bacilli have been seen in smear, and nevertheless the pig failed to develop tuberculosis. I usually stain not only the kidney specimen but also the bladder specimen so as

2. Morse, H. D., and Braasch, W. F.: Comparative Value of Guinea-Pig Inoculations in Diagnosis of Renal Tuberculosis, J. Urol. **17**: 287 (March) 1927.

3. Beer, Edwin: Significance of Ureteral Tubercle Bacilluria, Am. J. M. Sc. **154**: 251 (Aug.) 1917. Hyman, Abraham; and Mann, L. T.: Cultures, Smears and Guinea-Pig Inoculations in Diagnosis of Renal Tuberculosis, J. A. M. A. **77**: 1012-1016 (Sept. 24) 1921.

4. On several occasions in the past, before this cystoscopic technic was rigidly adhered to, ureteral smears showed tubercle bacilli and some pus cells, though the subsequent course has shown this side to be normal.

5. Bumpus, H. C., Jr., and Thompson, G. J.: Tuberculosis of the Genital Tract, Surg. Gynec. Obst. **47**: 791 (Dec.) 1928.

6. Wildbolz, Hans: J. Urol. **21**: 145 (Feb.) 1929.

7. Sixty-nine per cent in ureteral catheter specimen, 20 per cent in bladder urine, usually in cases of stricture of the ureter which prevented the obtaining of satisfactory kidney specimens; in 11 per cent we failed to find the bacilli, the diagnosis usually being made on the cystoscopic picture.

to have a control. I also inject the urine into guinea-pigs in many doubtful cases so as to make doubly sure. If the bladder urine in the pig is positive, the patient is sent for and reexamined. It is surprising how seldom I have found that I had missed the renal tuberculosis as determined by this control. Since this technic has been carefully adhered to, I have made much less use of activating doses of tuberculin, though every once in a while I have been compelled for the sake of safety to resort to this technic when renal tuberculosis seemed likely to be present and cystoscopic and urinary evidence was not manifest. It is well known that tuberculin, although not absolutely innocuous, leads to the throwing off of showers of bacilli, and every once in a while this effect has been noted in my service. In those rare cases of intrarenal exclusion of a tuberculous focus in which the symptoms of vesical irritation and pyuria are temporarily relieved, these activating doses of tuberculin will probably be of great use.

Before the subject of diagnosis is left, a word must be said about roentgenographic evidence of renal tuberculosis. Whether calcification is a sign of healing or not, it is present sufficiently often to be recognizable in roentgenograms, either as irregular plaques of opaque material or as porous calcified areas somewhat resembling stones. These calcified areas may outline calices, pelvis or ureter, and in some of the excluded putty kidneys there is sufficient calcium to throw a definite lobulated shadow representing the enlarged kidney.

Cystography has been thought to be of some use, especially if it shows fixation and deformation in and about the position of the diseased ureter. At best it seems only corroborative, other evidence of the disease being infinitely more valuable. If the diagnosis can be made without pyelography, I feel that this added trauma should not be inflicted on the patient. Recently Kearns reported that in seven cases that he knew of, five of the patients died within one to two years of generalization of the tuberculosis following pyelography. Occasionally it may be required and it will frequently show the pathologic changes vividly—one or more strictures in the ureter with more or less dilatation between, and more or less hydronephrosis with excavation of one or more calices, which look ragged and worm-eaten. Unfortunately, one occasionally sees pictures of caliceal disease caused by nontuberculous disease simulating tuberculosis, so that one is in doubt except in the more advanced cases of the exact interpretation of the pyelogram.

Despite all these refinements in diagnostic measures, one is occasionally forced to make an exploratory operation to decide whether one or both kidneys are tuberculous. This is much less frequent than it used to be. On exposing the suspected kidney, one can usually see some changes in the cortex after stripping the capsule, or one can palpate the thickened firm ureter, which usually clinches the diagnosis. Some have recommended collecting specimens from the exposed kidney by ureterotomy and staining them immediately, but that method seems unlikely to gain many adherents. If the ureter is soft and normal, the kidney cortex normal and the pelvis negative to palpation, it is highly doubtful whether that particular organ is tuberculous and so badly diseased as to have prevented a trained urologist from getting a cystoscopic specimen. In one case that I was in doubt about, I incised a suspicious area, saw the typical changes in one papilla, closed the kidney, and removed it without any harm to the patient and without infecting the wound. In several doubtful cases I have split the suspected organ, explored the whole pelvis under rubber tube hemostasis, and, not finding any evidence of tuberculosis, have resutured the organ and preserved an adequate kidney. One such case I demonstrated last year with pole to pole section and resuture, with only a moderate disturbance in functional capacity.

The treatment of chronic unilateral renal tuberculosis by nephrectomy has been placed on an unassailable foundation during the past thirty years. Surgery has built this foundation, and I thoroughly believe that it is a really great achievement. When there was doubt as to the frequency of the incidence of unilateral involvement, naturally there were skeptics who preferred to use other therapeutic measures. Rafin collected data in 669 cases of renal tuberculosis that came to autopsy, and 348 cases (or 52 per cent) in the end-stages were still unilateral. Clinical studies with careful methods have demonstrated in various competent hands that somewhere between 10 and 20 per cent of patients come to the surgeon for relief of symptoms with bilateral disease, and that between 80 and 90 per cent have involvement of only one kidney at this period. The excellent results of nephrectomy in the latter group (which were recently reported by Wildbolz) prove conclusively that in the vast majority of cases the disease begins in one kidney. In restudying a series of 270 patients in whom nephrectomy was performed more than ten years ago, he found 59 per cent alive and all but three absolutely well. This corresponds fairly accurately with the experience of all large clinics, though it must be emphasized that patients so placed that they can take good care of themselves have a better chance than those less fortunate economically.

Another point of view is obtained by studying the end-results in cases not treated by nephrectomy. As yet, no careful observer has reported a definite case of chronic renal tuberculosis that was cured spontaneously or by tuberculin, heliotherapy and hygiene. Apparent cures by ureteral occlusions, or temporary cures by caliceal occlusions, may occur, but the tuberculosis is still present and usually flares up on the slightest provocation. In those cases of so-called bilateral involvement in which the more diseased kidney had been removed and the second kidney had apparently spontaneously improved, this diagnostic analysis has definitely invalidated the evidence on the basis of which the bilateral involvement was diagnosed. Moreover, in all definitely proved cases of bilateral disease, the patients usually die within the first two years. Israel found that 70 per cent of sixty-two such patients in whom one kidney had been removed died shortly after the nephrectomy.

There can be no doubt that the more carefully one works, the more cases of bilateral involvement will be discovered before one decides on nephrectomy. Perhaps the belief is justified that a fair proportion of the patients that die of involvement of the second kidney with tuberculosis during the first two years following removal of the evidently tuberculous kidney may have had bilateral involvement at the time of the nephrectomy. This, however, would be a rash conclusion, as there is no definite evidence bearing on this point. The tendency to believe that the disease is usually bilateral in adults because it is hematogenous in origin is equally illogical, as it is well known that *Staphylococcus aureus* embolic abscesses of the kidney are hematogenous in origin but almost always unilateral. I myself in well over eighty cases of cortical abscess have seen only four

cases of bilateral involvement. In children, on the other hand, the tuberculous disease is unfortunately more frequently bilateral, probably because of their ineffectual general and local resistance and the fact that the disease is part of an acute or subacute miliary tuberculosis. In adults with equally diminished resistance, a bilateral involvement develops under the same conditions; but here, as in children, the disease is scattered through the kidney with cortical predilection, whereas in the typical unilateral chronic cases the disease in the earliest stages is almost invariably limited to the medulla, involving papillae and calices before extending to the cortex and pelvis.

Though nephrectomy is absolutely indicated in all unilateral cases provided the second kidney is functionally adequate, which is almost always the case, there is still some discussion as to whether any operation should be carried out in definitely proved bilateral involvement. Rarely are indications present for such operative intervention, and experience has shown that only in the exceptional case is benefit derived. Chills and fever due to a mixed infection, secondary perinephric abscesses, repeated hemorrhages or painful colics caused by stones may force the surgeon to intervene actively, not with the hope of curing but with the expectation of bringing some relief. My experience has shown that one's expectations are usually not fulfilled.

Nephrectomy with removal of the upper ureter is the operation of choice in chronic renal tuberculosis. If, however, the ureter is badly stenosed and dilated above the stricture, I believe that the operation of choice is an aseptic nephro-ureterectomy through two incisions—the lumbar for the kidney and a pararectus extraperitoneal for the lower ureter—the kidney and attached unopened ureter being brought out through the lumbar wound, as previously described by me[8] in THE JOURNAL. It does not prolong the operation and at the same time prevents any secondary empyemas of the ureter or ureteral fistula.

The operation must be done with gentleness, as otherwise one may squeeze tubercle bacilli into the circulation and perhaps induce a fatal miliary tuberculosis. In at least three cases, I have found that such a bacillemia occurred subsequent to the operation, as was proved by guinea-pig inoculations of preoperative and postoperative blood.

As yet, no method has been devised to prevent more or less extensive wound infection and delayed healing of the nephrectomy wounds. Sinuses or tuberculosis of the whole wound are liable to be present in almost 25 to 30 per cent of the cases, and they are notoriously slow in healing. Their causation is in dispute. Most writers attribute them to the diseased ureter. This is surely a mistake, as I find that they occur about as frequently in the cases in which I remove the whole ureter as in those in which I remove only an inch or two. Others believe they are due to tuberculosis in the fat about the kidney, which Legueu has asserted to be a common occurrence. In the innumerable pieces of fat that I have removed for such control examinations, microscopic tubercles have rarely been found. In some cases the wound infection is undoubtedly due to gross spilling, but even this is not regularly followed by a long persistent disturbance in the healing.

Further study of this whole subject has firmly convinced me that the explanation is to be found in the traumatic bacillemia induced by the operator. As a result of this, the tubercle bacilli arrive in the vascular muscular wound and induce here and in the deeper tissues a secondary tuberculosis. In the cases in which I have performed a complete ureterectomy—the so-called aseptic nephro-ureterectomy—the anterior rectus sheath is absolutely avascular, no vessel being cut or tied, and this wound never becomes infected but closes by primary union, though the diseased stump of the ureter is at its bottom, whereas the posterior vascular muscle incision in about one third of the cases fails to heal kindly. This corroborative experience is experimental proof of the correctness of my explanation of the origin or causation of most of these troublesome sinuses or wound tuberculoses.[9]

Whether this traumatic bacillemia is responsible for the involvement of the second kidney, which if it is going to develop seems to show itself most frequentiy during the first few years, I cannot say. Israel suggested a selective affinity of renal-fed bacilli for renal tissue, much as others have more recently attributed this faculty to streptococci. This possibility must be borne in mind in trying to decide the question previously discussed; namely, are those cases of early involvement of the second kidney following nephrectomy due to oversight or to new fresh tuberculosis, possibly secondary to the traumatic bacillemia induced by the nephrectomy?

After removal of the diseased kidney, the patient is still a patient and must be carefully protected from harmful influences. Good food, rest and hygienic surroundings are essential, even if there are no actual tuberculous foci that require therapeutic attention.

A fair proportion of the patients in the early stages do not require more than careful supervision. They feel fine and do not have any symptoms and are liable to neglect themselves. Others have persistent bladder symptoms and may require local applications or irrigations in addition to general hygienic measures. The tuberculous cystitis with its ulcers is particularly stubborn, and though I have had best results with high frequency cauterization or electrocoagulation, still at times the result is only transitory and reapplications of the current are necessary. Irrigations and topical applications, as well as instillations of various bacilli, have been tried with varying results. Phenol (carbolic acid) still has some advocates. Low voltage roentgen therapy and alpine light occasionally seem beneficial. Usually, one has to try one method after another, one drug after another, so that one is in doubt as to which has benefited. The electrocoagulation of the surface of these tuberculous ulcers seems to give immediate relief, and though gas-oxygen anesthesia may be required to make such applications possible, the result is well worth while.

Despite all efforts to date, the tuberculous patient in whom nephrectomy has been performed has a definitely lower life expectancy than most patients with single kidneys. Not only is there a 10 to 20 per cent chance of later tuberculous involvement of the second organ, but miliary tuberculosis and pulmonary tuberculosis are most serious dangers that these patients face.

Before closing this too sketchy paper on a most important subject, I should like to consider the possible contraindication to nephrectomy in solitary renal tuberculosis. Open active pulmonary tuberculosis with fever

8. Beer, Edwin: Aseptic Nephro-Ureterectomy, J. A. M. A. **77**: 1176 (Oct. 8) 1921.

9. Beer, Edwin: Chronic Tuberculosis of the Kidney, Am. J. M. Sc. **162**: 736 (Nov.) 1921; The Use of Tuberculin in the Diagnosis of Obscure Conditions in the Genito-Urinary System, M. Rec., Oct. 11, 1913.

may be present, and if the renal symptoms are not severe and distressing, a kidney operation may be deferred. If, however, the dysuria and frequency are interfering with the patient's ability to cope with the serious pulmonary lesion, the kidney will have to be removed, under spinal anesthesia. One should also be wary of operating on patients without mixed infections who are showing an irregular septic temperature, lest one add insult to injury and remove a kidney from a patient who is suffering as well from a subacute or acute miliary tuberculosis.

In this review I have attempted to bring together all the high lights or essential points as briefly as possible. I realize thoroughly, however, having followed the literature on this subject most carefully, that it is impossible to touch on all the minor details of diagnosis and therapy which a longer paper would permit.

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RESUSCITATION OF THE ASPHYXIATED NEW-BORN *

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A recital of the methods of resuscitation of the asphyxiated new-born in vogue at present sounds like a chapter from "Mother India." Nowhere in present-day medicine can one see such antiquated, unscientific and haphazard procedures as those practiced in the attempt to induce the new-born child to take its first breath.

The constantly repeated dictum that childbirth is a normal physiologic function has led to the belief that any method of resuscitation practiced by animals or by the ancients should suffice in the case of the human offspring. We hold that, in most places, attempts at resuscitation as practiced in present-day obstetrics are either futile gestures or actual deterrents that defeat their own purpose, and we insist that beating, slapping and manhandling a delicate human body in its first fifteen minutes of life is not only needless but, indeed, extremely harmful. Dashing a new-born infant into ice-water, swinging it through the air, or crushing its head against its symphysis can do nothing more than lower the baby's body heat, rupture a viscus or blood vessel, or entail other severe injury. The babies who have lived after having been subjected to present-day methods of resuscitation have not been saved by these methods; they have lived in spite of such treatment, and the percentage of living babies would be greater had they been left entirely alone.

In studying the available statistics, we find that in postmortem examinations of the new-born who were living at birth, 20 per cent had atelectasis as a cause of death without any other demonstrable pathologic condition. It is not unreasonable to suppose that of this number a large percentage would have been amenable to a proper means of artificial respiration provided there were no other lesions responsible for the baby's failure to survive. In asphyxia, shock is a predominating factor and may of itself be the chief cause of the cerebral ischemia directly contributing to the condition, or of the increased threshold of response on the part of the respiratory center which prevents these babies from responding to that external stimulation which is physiologically adequate for the majority.

Henderson [1] says:

> After birth the infant breathes in response to the same stimulus and by the same mechanism as those which the modern physiology of respiration has shown obtained in adults, in children, and in all mammalian animals. In all these, and in the infant no less, the maintenance and regulation of breathing depend on the carbon dioxide brought to the respiratory center in the blood. Oxygen is requisite if the center itself is to be maintained in normal condition, and if the tissues are to produce carbon dioxide, for deprivation of oxygen necessarily decreases the production of carbon dioxide. But the center may be quite normal and also quite inactive in the presence of ample oxygen if the blood is deficient in carbon dioxide. If the center has become inactive, or if its activity is subnormal, there is one, and only one, stimulus that will both restore and maintain normal activity: an increase of carbon dioxide in the blood. . . . It is as certain as anything in the whole range of modern science that respiration is under a chemical control by the more or less direct action of the arterial blood, chiefly through its content of carbon dioxide, on the respiratory center in the brain. It has been proved also that oxygen is not a stimulant, a fact which clinicians seem to find extremely hard to appreciate. . . . Asphyxia is usually thought of as a condition of oxygen deficiency and excess of carbon dioxide. This is a misconception; asphyxia usually, as in the typical condition of carbon monoxide poisoning, involves both low oxygen and low carbon dioxide content in the blood and tissues. . . . It is the carbon dioxide carried by the blood from the tissues to the brain that is the physiologic stimulant to respiration. When the center is depressed, it requires more than the normal amount of this stimulant to induce activity.

Henderson advises the use of 5 per cent carbon dioxide in oxygen for resuscitation of the new-born, with the gas made available to the infant by means of a tank and face mask. This arrangement is satisfactory for resuscitation of adults but lacks practicability when applied to the new-born. Its impracticability is anatomic and economic. In the adult, the larynx and trachea are firm structures formed by cartilage and supported by bone, their lumens remaining patent when subjected to stress because of the rigid formation of their supporting framework. In the infant, the larynx and trachea are weak structures and easily collapsible; their shape is maintained by cartilaginous tissue as yet not ossified, and positive pressure in the pharynx and esophagus easily collapses them, obliterating the patency of their lumens and causing a physiologic obstruction which prevents air or gas from entering the bronchi. Any force of gas not applied directly into the larynx would be likely to cause the opening to collapse and allow the gas to pass into the larger and more easily entered esophagus. The economic impracticability of having a gas tank and a mask at each accouchement is obvious.

For this reason, with Henderson's observations as a basis, in the new-born at least, some more practical device is necessary to place the mixture of carbon dioxide and oxygen where it may be used by the infant, in order to overcome the collapsibility of the embryonic larynx and trachea, and to prevent the gas from going into the stomach. This device should be simple, cheap, easy to keep in order and easily accessible at all times. The tracheal catheter meets all of these requirements.

Expired air contains nitrogen 79, oxygen 16.02, and carbon dioxide 4.38 per cent—sufficient oxygen and carbon dioxide to meet the needs of the asphyxiated

* Read before the Portland Society of Obstetricians and Gynecologists, Sept. 26, 1928.

1. Henderson, Yandell: Prevention and Treatment of Asphyxia in New-Born, J. A. M. A. **90**: 583 (Feb. 25) 1928.

infant. By means of the tracheal catheter all mucus, blood and amniotic fluid can be withdrawn from the mouth, pharynx and larynx before resuscitation is attempted. After the air passages are freed from foreign material, the gas to be used for resuscitation (expired breath of the operator) can be placed at a location in the child's body where it will be readily available for use. Positive pressure here is of value, as it is delivered into the trachea and inflates the lungs; the air is warm and helps to maintain the body temperature.

The tracheal catheter is used with a glass saliva-trap at the lips of the operator. The trap is so constructed that any mucus or fluid withdrawn from the child is kept from the mouth of the operator and any droplets of saliva are prevented from being forced into the respiratory apparatus of the child.

TECHNIC

As soon as the baby's head is born it is our custom to remove with the finger any débris from the mouth, and to milk the trachea, so that the first inspiration will not draw foreign material into the lungs. After the body is born, before the cord is clamped or cut, the child is suspended by its feet, the trachea and larynx are again milked gently toward the mouth, and the finger is again inserted to withdraw any material forced from the trachea into the buccal cavity. When the airway is apparently free from obstruction, the baby is placed on its right side and the cord is clamped and cut. No external stimulation is used except the gentle wiping of the blood and amniotic fluid from the baby's body. If the baby soon starts attempts at respiration without evidence of obstruction in the air passages, all is well, and as soon as the respirations are rhythmic it is handed to the nurse to be placed in its crib. If after a short time, however, the baby does not make any attempts at respiration, or if the attempts at respiration are evidenced by marked retraction at the costal margins without lessening of the cyanosis, the child is placed in a warm blanket on a suitable table and the tracheal catheter is used to remove mucus and fluid from the buccal cavity and the throat. It is then inserted into the larynx and trachea to withdraw any obstructing material and to administer carbon dioxide and oxygen as a respiratory stimulus.

Introduction of the catheter is a procedure which, if done gently, is comparatively simple and lends itself easily to expertness. We have been able to teach interns and supervising nurses to do the intubations. P. J. Flagg [2] uses an electric lighted tongue depressor and visualizes the opening into the larynx before the intubation. We have found this also unpractical and unnecessary.

The baby, wrapped in a warm blanket, is placed with its head over the edge of a table. The head is steadied by an assistant. After sterile water has been drawn into the catheter to prove its patency, the index finger of the right hand depresses the tongue and at its base locates the tiny slit that is the opening into the larynx. The small fiber catheter is inserted with the left hand, so that its tip eventually finds itself beneath the end of the finger at the small slit opening into the larynx. Then, by slight depression of the tip of the catheter with the index finger of the right hand, the catheter readily finds its way into the opening of the larynx. The position of the catheter can be easily proved by advancing the finger of the right hand slightly into the esophagus. The catheter is inserted 3 or 4 cm. farther, and suction is made to extract mucus from the larynx and upper trachea. (We have on three occasions removed pieces of mucus from 2 to 3 cm. in diameter). The catheter [3] is then removed and cleared by blowing through it. The catheter is again inserted into the trachea and artificial respiration is started. This technic has long been advised by De Lee.[4]

Before the application of the respiratory stimulant is described, a brief consideration of the physiologic condition to be overcome is in order. The lungs are in a state of atelectasis, a condition in which there has been no inflation of the pulmonary tissues; the alveoli are collapsed, and the bronchi and small bronchioles have their walls in a state of physiologic adhesion. The first impulse through the catheter should be gentle and of small volume. As the tidal air in the respiration of the average new-born child is only 45 cc., the first inflation through the catheter should be not more than from 10 to 15 cc. and the subsequent ones gradually increased. This calls for nicety of judgment on the part of the operator and is the only part of the maneuver in which there is likelihood of doing gross harm to the infant. In the new-born infant, the respiration is at first diaphragmatic because of the weakness of the intercostal muscles and the horizontal position of the ribs. Breathing is shallow, because in a recumbent position the abdominal viscera press firmly against the diaphragm; hence, it is approximately from 40 to 45 inspirations a minute. There is no pause between inspiration and expiration or between expiration and inspiration. Bearing these facts in mind, the operator should puff, very gently, into the catheter through the trap about forty times a minute in order to simulate as closely as possible the normal respiration of the new-born. The force to be used would, with the lips pursed to whistle, be felt on the wet finger about 3½ to 4 inches (9 or 10 cm.) from the mouth, or would be about the same force one would use in blowing small smoke rings.

Negligence in maintaining the baby's body heat is undoubtedly the cause of some failures. A basin of warm water or soft warmed blankets are adequate.

The effort at resuscitation should be continued as long as the heart beats, and may be supplemented with three minimum doses of solution of pituitary and epinephrine.

After the establishment of regular respiration, the child should be kept warm and observed closely for several hours in order to guard against any subsequent respiratory failure. One should not hesitate to repeat the maneuver should respiratory failure recur.

The tracheal catheter is not a panacea which will overcome failure of a baby to breathe because of cerebral injury or ischemia, or of congenital anomalies. It is a method, however, that will, if used intelligently, aid in the establishment of regular respiration in infants with atelectasis.

Contrary to several expressed opinions, the insertion and use of the tracheal catheter is simple and easy of performance. It is not the formidable procedure commonly supposed, and any person who is capable of conducting an accouchement should be able to use the tracheal catheter in the manner described.

545 Medical Arts Building.

2. Flagg, P. J.: Treatment of Asphyxia in New-Born, J. A. M. A. **91:** 788 (Sept. 15) 1928.

3. The catheter and trap are made by V. Mueller & Co., Chicago.

4. De Lee: Textbook of Obstetrics, Philadelphia, W. B. Saunders Company, p. 850.

SODIUM HYDROSULPHITE IN TREATMENT OF ACUTE ARSENICAL POISONING *

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Acute arsenical poisoning is still a problem of vital interest to the clinician. Although the number of cases of accidental poisoning has been considerably reduced by virtue of certain restrictions that have been placed against the industrial use of the substance, and the dissemination of knowledge regarding its toxic properties, cases of acute intoxication are not infrequent. In the search for suitable antidotes with which to combat the toxic manifestations of an orally administered arsenical compound, many substances have been introduced.

Unfortunately these so-called arsenic antidotes have not found support in animal experimentation, in which it becomes possible to draw satisfactory conclusions as to the efficacy of the preparation by establishing conditions of uniformity in dosage and treatment, as well as the employment of an adequate number of control animals.

In a recent paper from this laboratory [1] it was conclusively shown that sodium thiosulphate was valueless in the treatment of poisoning from the oral administration of potassium arsenite. Here the fatal outcome was not even retarded, although the supposed antidote was given immediately following the administration of a minimal lethal dose of the arsenic preparation.

Our interest in this work has been revived by the investigations of Hesse,[2] who reports that he has employed sodium hydrosulphite with success in the treatment of experimental mercuric chloride poisoning. The validity of Hesse's observations has been attested to some extent in this laboratory by Haskell and his associates, who have found that sodium hydrosulphite if given immediately following the oral administration of a fatal dose of mercuric chloride will, in the majority of instances, save the animal.

The use of sodium hydrosulphite in mercuric chloride poisoning has led us to conduct a series of experiments to determine whether the compound would exert any favorable influence in cases of acute arsenic poisoning. These experiments have been carried out on apparently healthy dogs following a twenty-four hour period of starvation, so that the presence of food in the stomach would not influence absorption of the arsenic preparation. To prevent vomiting, 10 mg. of morphine sulphate per kilogram was injected subcutaneously, followed in half an hour by the oral administration of the poison. As a source of arsenic we have employed solution of potassium arsenite-U. S. P. (Fowler's solution), which was administered from a buret into a funnel connected with the stomach tube, and rinsed down with 25 cc. of tap water. From previous experiments it was found that the minimal lethal dose of solution of potassium arsenite was between 0.5 and 0.75 cc. per kilogram of body weight, when given orally to dogs. The mortality of a series of eighteen dogs given 0.75 cc. per kilogram was 100 per cent, and that of thirteen dogs given a dose of 0.5 cc. per kilogram, 46.1 per cent.

In our first experiment, however, we employed 1 cc. of solution of potassium arsenite per kilogram orally, which was immediately followed by the sodium hydrosulphite, 100 mg. per kilogram in the form of a 10 per cent solution, and was rinsed down with 25 cc. of normal hydrochloric acid. The results are shown in table 1.

Sodium hydrosulphite must not be confused with the thiosulphate ($Na_2S_2O_3$), which is sometimes erroneously called hyposulphite. The compound with which the investigation reported in this paper has been conducted has the formula $Na_2S_2O_4$. It is very soluble in water, with the evolution of heat and the liberation of sulphur dioxide. With solutions of potassium arsenite a dark brown precipitate of the subsulphide of arsenic is formed, the reaction being accelerated by the addition of dilute mineral acids. The toxicity of sodium hydrosulphite is apparently low; we have given to dogs as much as 1 Gm. per kilogram of body weight without any apparent injurious effect. However, the compound possesses one objectionable feature in that it induces vomiting in many instances in spite of the previous administration of morphine. For this reason Hesse advises alkalization of the solution of sodium hydrosulphite, which not only increases the stability of the solution but renders it less irritant to the gastric mucosa. As rational as this procedure would seem, it is no safeguard against emesis. Since the alkalized solution does not produce any immediate visible reaction with potassium arsenite there seems to be no advantage in such a procedure; consequently we felt that it would be a better plan to administer a freshly prepared solution of sodium hydrosulphite and immediately follow it with 25 cc. of normal hydrochloric acid. Under these conditions the compound would be fairly rapidly decomposed but certainly more effective in precipitating the arsenic. After the administration of the antidote and acid solutions, it was customary to observe the animals for a period of half an hour and to reject those animals in which vomiting occurred.

TABLE 1.—*Results Following the Immediate Use of Sodium Hydrosulphite in Poisoning from the Oral Administration of Potassium Arsenite Solution*

Weight of Dog, Kg.	Solution of Potassium Arsenite-U. S. P., Cc. per Kg.	Sodium Hydrosulphite, Mg. per Kg.	Result
10.1	1	100	Survived *
7.27	1	0	Died 8 hours
5.0	1	100	Survived *
6.6	1	0	Died 9 hours

* If animal was living at the end of two weeks, it was reported as survived.

It is quite obvious from table 1 that the presence of the sodium hydrosulphite has exerted a most favorable influence, since both treated animals survived, and the untreated ones died within twenty-four hours. This is, however, of little practical importance from a clinical standpoint, as in most cases of clinical arsenic poisoning there is a considerable lapse of time before the patient comes under observation. The experiment may be of value in showing that inorganic arsenic compounds are rendered less toxic by the administration of sodium hydrosulphite.

The next experiments were conducted with the view of determining the period of effectiveness for the antidote by allowing varying periods of time, ranging from three to thirty minutes, to elapse before the hydrosulphite was administered. The condensed protocols are shown in table 2.

* From the Department of Pharmacology, Medical College of Virginia.

1. Haag, H. B., and Bond, W. R.: Value of Sodium Thiosulphate in Poisoning from Oral Administration of Arsenic, J. A. M. A. **88**: 1219 (April 16) 1927.

2. Hesse, Erich: Versuche zur Therapie der Quecksilbervergiftung, Arch. f. exper. Path. u. Pharmakol. **107**: 43, 1925.

The results obtained in this experiment, while somewhat discouraging, plainly show the necessity of immediate treatment, as well as the rapidity with which potassium arsenite is absorbed from the stomach. The mortality of the treated animals was 100 per cent when the lapse of time was greater than five minutes. All animals treated before this time survived, with the exception of one which died on the sixth day without developing the usual symptoms of acute arsenic poisoning.

TABLE 2.—*Results Following the Use of Sodium Hydrosulphite in the Treatment of Dogs Poisoned by the Oral Administration of Potassium Arsenite Solution*

Weight, Kg.	Arsenite Solution, Cc. per Kg.	Sodium Hydrosulphite, Mg. per Kg.	Time Interval in Minutes	Result 24 Hours
12.2	1	None	..	Dead
12.4	1	None	..	Dead
10.8	1	None	..	Dead
4.37	1	None	..	Dead
14.0	1	100	30	Dead
13.5	1	100	30	Dead
5.0	1	100	30	Dead
3.45	1	100	30	Dead
4.8	1	100	4.75	6 days
5.1	1	100	4.25	Survived
15.8	1	100	3	Survived
3.75	1	100	3	Survived
10.3	1	100	10	Dead
11.7	1	100	10	Dead
13.7	1	100	10	Dead
11.4	1	100	9.25	Dead

Heretofore we had been employing doses of arsenic approximately twice the minimal fatal dose. In the next experiment it was thought advisable to reduce the quantity of arsenic solution to 0.75 cc. per kilogram and observe the effect of this reduction in dosage on the period of effective treatment. It may be readily seen from table 3 that less than 10 per cent of the animals treated with sodium hydrosulphite within ten minutes after the administration of a fatal dose of arsenic died. The mortality of the control animals and those treated after this time was 100 per cent, the greatest prolongation of life being only forty-eight hours.

TABLE 3.—*Results Following the Use of Sodium Hydrosulphite in the Treatment of Poisoning from the Oral Administration of Potassium Arsenite Solution-U. S. P., 0.75 Cc. per Kilogram of Body Weight (Dogs)*

Weight, Kg.	Arsenic Solution, Cc. per Kg.	Sodium Hydrosulphite, Mg. per Kg.	Time Interval in Minutes	Results
4.0	0.75	None	..	Died 48 hours
3.86	0.75	None	..	Died 8 hours
3.8	0.75	None	..	Died 24 hours
6.65	0.75	None	..	Died 24 hours
8.9	0.75	None	..	Died 24 hours
10.9	0.75	None	..	Died 24 hours
14.6	0.75	None	..	Died 24 hours
18.7	0.75	None	..	Died 24 hours
5.7	0.75	100	5	Died 36 hours
6.1	0.75	100	5.75	Survived
13.05	0.75	100	6	Survived
10.3	0.75	100	6	Survived
8.07	0.75	100	6	Survived
8.7	0.75	100	6	Survived
8.5	0.75	100	10	Survived
8.4	0.75	100	10	Survived
6.9	0.75	100	10	Survived
8.3	0.75	100	10	Survived
8.08	0.75	100	10	Survived
7.7	0.75	100	15	Died 24 hours
7.9	0.75	100	15	Survived
8.5	0.75	100	16	Died 24 hours
5.3	0.75	100	16	Died 24 hours
3.03	0.75	100	20	Died 48 hours
4.1	0.75	100	20	Died 24 hours
6.7	0.75	100	11	Survived

It should be borne in mind that these experiments have been conducted under such conditions as would markedly facilitate the absorption of the arsenic preparation. It is not surprising, therefore, that the antidote was ineffective after the lapse of ten minutes, since a fatal dose of arsenic had already been absorbed, and at this stage it is extremely doubtful whether lavage would accomplish the desired result. The presence of food in the stomach, as would ordinarily be the case clinically, would undoubtedly delay absorption of the poison to such an extent that the period of effective treatment would be much prolonged.

SUMMARY

We do not wish to recommend the use of sodium hydrosulphite in the treatment of acute arsenic poisoning as a measure intended to supplant gastric lavage, the importance of which is unquestioned in poisoning from any orally administered drug. As an adjunct to the latter, however, the compound may prove quite effective, particularly in those cases in which the presence of undigested food in the stomach might embarrass the progress of lavage. The immediate administration of appropriate amounts of sodium hydrosulphite may serve to fix or render unabsorbable the arsenic until thorough lavage can be effected, if not to be solely responsible for the patient's recovery.

TULAREMIA IN MINNESOTA*

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Tularemia in man is an acute infection characterized typically by the rapid onset of generalized symptoms and the coordinate development of a local ulcerative lesion at the site of a wound or insect bite. The disease is primarily a disease of rodents, in which it occurs as an epizootic disease. It is usually transmitted to man by wound contamination, from contact with an infected rabbit, or by the bite of an infective deer fly or wood tick. Of the seven cases of the infection reported in this paper, six occurred closely grouped geographically in a region in which the disease had not previously been reported. They represent the first cases of insect transmission occurring in Minnesota and demonstrate a possible source of the infection not previously described.

Tularemia, as a disease of ground squirrels, was first described in 1911 and 1912 by McCoy and Chapin,[1] who isolated the causative bacterium and named it *Bacterium tularense*. The organism is a very small, short bacillus, showing bipolar staining, and is difficult to cultivate. It has recently been shown to be similar to the organism causing undulant fever and infectious abortion of cattle.

The first infection of man proved bacteriologically was described by Wherry[2] in 1914. In 1911, however, Pearse[3] had described the clinical disease, under the name of "deer-fly fever," as occurring in Utah. It was Francis[4] who showed, in 1919, that deer-fly fever was an infection by *B. tularense* and named the disease "tularemia." It is to Francis that the main bulk of

* From the Department of Bacteriology, University of Minnesota.

1. McCoy, G. W.: A Plaguelike Disease of Rodents, Bull. 43, Hyg. Lab., U. S. P. H. S., April, 1911. McCoy, G. W., and Chapin, C. W.: Bacterium Tularense, the Cause of a Plaguelike Disease of Rodents, Bull. 53, Hyg. Lab., U. S. P. H. S., January, 1912.

2. Wherry, W. B.: A New Bacterial Disease of Rodents Transmissible to Man, Pub. Health Rep. **29**: 3387-3390, 1914.

3. Pearse, R. A.: Insect Bites, Northwest Med., new series **3**: 81-82 (March) 1911.

4. Francis, Edward: Deer Fly Fever: A Disease of Man of Hitherto Unknown Etiology, Pub. Health Rep. **34**: 2061-2062 (Sept. 12) 1919; Tularemia, J. A. M. A. **84**: 1243-1250 (April 25) 1925.

knowledge concerning the disease may be credited. By an exchange of material, Francis and Ohara have identified Ohara's disease of Japan as identical with tularemia.

In the usual infection, the disease begins with the development of a papule at the site of a wound infected in cleaning a rabbit, or at the point of a bite from a deer fly or wood tick.[5] There is a lapse of from two to seven days before attention is attracted to the lesion, and by that time, or even before, general symptoms, such as chills, fever, aching throughout the body, prostration, rapid loss of weight, and sometimes delirium, have developed. Acute illness persists for two or three weeks, during which time the original site of the infection ulcerates and an enlargement of regional lymph nodes occurs. The lymph nodes usually become necrotic and on drainage secondary ulcers form. Following the acute illness a chronic stage of the disease ensues which may be characterized by slow, progressive softening of the more proximal lymph nodes. Convalescence is usually slow, requiring a period of from two to six months or even longer.

The initial lesion may be variously located. Wounds infected in cleaning rabbits are usually on the hands. Infectious material may be transferred to the eye and the primary lesion be a conjunctivitis. The initial lesion developing from a deer-fly bite is apt to be on the back of the neck or other exposed parts.

A type of the disease showing typical symptoms and glandular involvement but lacking an initial lesion has been described. A typhoidal type, with neither local lesion nor glandular enlargement, has been observed in laboratory workers accidentally infected.

The disease may be confused clinically with pyogenic septicemia, lobar or bronchial pneumonia, miliary tuberculosis or typhoid. Bacteriologically it may be confused with malta fever and infections with *Brucella abortus*. Pathologically it is very similar to tuberculosis.

The first case of tularemia reported in the state of Minnesota is that recorded by Rutledge.[6] This, a fatal case, occurred in Becker County in August, 1926. During the fall of 1926 three more cases of this disease occurred in St. Louis County, and these have been reported by Merriman[7] in a comparative study. A fifth case occurred in 1926 in the practice of Dr. P. B. Monroe of Soudan, in Tower County, and through his courtesy the case has been included in the series here recorded. In 1927 two active cases of tularemia occurred in the practice of one of us. These cases brought to mind similar infections of previous years, which have since been investigated. Diagnosis of the cases of this disease which occurred prior to 1927 has been established by typical histories and agglutination tests. Ample precedent for this procedure has been set by Francis. Three of the cases thus recognized antedate the first case of tularemia in Minnesota reported by Rutledge.[6] These cases are reported in the order of their occurrence.

REPORT OF CASES

CASE 1.—Mrs. H. H., of Wadena County, about Sept. 24, 1924, cleaned a rabbit, which was found sick, and fed it to three cats. At the time of cleaning the rabbit, she had a scratch on her finger. About a week later her finger became very sore. She developed chills and fever, and when seen presented a typical picture of septicemia. A papule present on her finger was lanced but did not yield any pus. The epitrochlear glands were enlarged and tender. Later an ulcer, which was very obstinate in healing, formed at the site of the papule. The patient was very ill for about three weeks, having hallucinations of vision. She slept a great deal of the time. She complained of a generalized aching, and her skin was flushed. She had apparently recovered from the acute illness when she again became ill with swollen, tender and inflamed joints, and deep-seated, painful nodules with a reddish aspect over the anterior surface of both tibias. A diagnosis of inflammatory rheumatism complicated by erythema nodosum was made at that time. She completely recovered after ten weeks. It is interesting to note that the three cats that ate the rabbit became ill. The illness was characterized by vomiting, languor, huskiness of voice and loss of appetite. A fourth cat which belonged to the household but did not eat any of the rabbit remained well. The three cats recovered from their illness after about a week. A sample of blood was obtained from the patient in November, 1927. The blood agglutinated *B. tularense* in a dilution of 1:160.

CASE 2.—Miss W. W., of Hubbard County, in October, 1924, was bitten on the finger by a cat. The animal died a few hours after biting her. Several days later the patient developed chills and fever, with an aching throughout the body; headache was pronounced. A sore developed on the finger at the point of the bite and persisted for thirteen weeks. A localized collection of pus did not form. Epitrochlear and axillary lymph nodes became enlarged. Chills and fever persisted for about two weeks. The patient was not critically ill at any time. In October, 1927, the patient's serum agglutinated *B. tularense* in a dilution of 1:320.

CASE 3.—J. K., a man, aged 68, of Hubbard County, about June 25, 1926, was bitten by a wood tick on the posterior surface of the left thigh. A red papule developed at the point of the bite. June 29, the patient became sick with chills, fever and a generalized aching. When he was seen on June 30, he showed great prostration and a temperature of 103 F. At this time physical examination was negative, except for the local lesion, which appeared as a bluish red papule surrounded by a large red zone. This papule was curetted but no pus was obtained. Hot chloride packs were applied. Two days later a definite ulcer had developed at the point of the bite. At this time the patient slept almost continuously and was more or less stuporous when awake. Marked chills were present from five to six days after the onset. The inguinal glands on both sides became swollen; the one on the left became soft and was opened and drained the last week in July, about four weeks after the onset of the disease. The temperature ranged from 102 to 103.5 for two weeks after the onset. The patient was confined to bed for a period of four weeks. The lesions gradually disappeared during August and September. Blood taken in September, 1927, showed specific agglutination for *B. tularense*, up to a dilution of 1:160. This case of tularemia is known to have followed a bite by a wood tick. The wood tick in Minnesota is *Dermacentor variabilis*.

CASE 4.—Mrs. H. P., aged 44, of St. Louis County, Nov. 18, 1926, dressed three rabbits which had been shot in the vicinity of Tower. In the evening of the same day she noticed that a scratch on the middle finger of her left hand was irritated and sore and wondered whether she had been infected from handling the rabbits. For a day or two she felt indisposed.

November 23, she developed a headache, chills and fever. She was put under the care of Dr. P. B. Monroe of Soudan. For a number of days the temperature remained high (between 104 and 105 F.). The patient was extremely weak but did not have any other complaints. Examination of the chest was negative. Central pneumonia was considered a possibility but a diagnosis of influenza was made. After about ten days' illness, during which period the temperature was not recorded daily, a normal temperature was reached. On the following day the temperature rose to 103, but from this time on a gradual decline took place.

Attention was not called to the previously noted lesion early during the illness, but there developed at the site of abrasion on the finger an abscess, the size of a hazelnut, which sponta-

5. Parker, R. R.; Spencer, R. R., and Francis, Edward: Tularemia Infection in Ticks of the Species Dermacentor Andersoni Stiles in the Bitter Root Valley, Montana, Pub. Health Rep. **39**: 1057-1073 (May 9) 1924.

6. Rutledge, L. H.: A Fatal Case of Tularemia in Minnesota, Minnesota Med. **10**: 97-99 (Feb.) 1927; abstr. J. A. M. A. **88**: 788 (March 12) 1927.

7. Merriman, L. L.: Tularemia: A Comparative Study of Four Cases Originating in Minnesota, Minnesota Med. **10**: 719-725 (Dec.) 1927.

neously opened about two weeks after the onset of the disease, while the patient was confined to bed. A deep ulcer resulted.

December 5, the patient was seen by Dr. R. L. Burns of Two Harbors, who diagnosed the condition as chronic myocarditis but did not find any evidence of the present infection. Toward the end of December, the patient developed swelling and tenderness of the epitrochlear gland of the left elbow and was advised by Dr. Monroe that it would probably have to be lanced. January 2, the swelling was about half the size of a fist. Dr. Burns made an incision and let out about 3 ounces of yellowish green pus. The pus was thick and continued to drain for several weeks following incision. At this time swelling and tenderness appeared in the left axilla. This ruptured about January 25. The patient refused premission to open the later abscesses, of which there were three in the epitrochlear region, three in the axilla and one in the upper left pectoral region.

When the patient was seen, Feb. 2, 1927, there was a large swelling in the left axilla, about 4 inches in diameter, with brawny induration of the skin and subcutaneous tissue. February 8, a sample of blood showed complete agglutination against *B. tularense* in a dilution of 1:320, and partial agglutination in a dilution of 1:640.

April 25, 1928, the site of the pectoral abscess was still tender to the touch. The patient stated that her condition was good, although she tired more easily than she had before the infection.

CASE 5.—C. J., a boy, aged 9, of Hubbard County, noticed a somewhat painful lump on the back of his head, below the mastoid area, July 5, 1927. He did not feel well and developed fever, chills and vomiting. He became very restless and was unable to sleep at night. He was first seen, July 19. He appeared to be very ill and had a temperature of 103. Physical examination showed a small ulcer, about 1 cm. in diameter, on the scalp in the left postparietal region. The upper postcervical lymph gland suppurated and was opened and drained. Two other enlargements were evident farther down. The patient looked emaciated and pale and appeared to be irritable. About July 27, the second gland suppurated and was drained. Pus from this gland injected into guinea-pigs did not produce illness or death. About August 10, the third gland above the clavicle suppurated and was drained. The glands were still discharging pus on September 10, but the general condition was much improved. Blood taken on September 10 gave a specific agglutination for *B. tularense* in a dilution of 1:160. It appears probable that this infection followed the bite of a wood tick.

CASE 6.—W. A., a man, of Hubbard County, developed a sore spot in the left postparietal region, July 10, 1927, and noticed that he had a swollen lymph node in the same region. He was able to go fishing, July 12, but developed generalized severe pain on his return. When he was seen two days later he was prostrate with chills and fever and was still suffering intensely from generalized pain. A diagnosis of "wood-tick disease" was made. The patient left Park Rapids for Minneapolis, July 21. In Minneapolis he was under the care of Dr. Henry,[8] who has reported the case in detail. In consultation with one of us, a diagnosis of tularemia was made. The diagnosis was established by a positive agglutination in a dilution of 1:360, and confirmed by production of the disease in guinea-pigs from material obtained from the wall of the ulcer. Subsequently *B. tularense* was obtained in pure culture from the inoculated animals. A report from this patient, Nov. 15, 1927, stated that he had regained 14 of the 25 pounds lost during the infection, but that he still had a rapid pulse and was troubled with pains in the lower limbs. The patient was of the opinion that the infection followed the bite of a deer fly rather than the bite of a wood tick.

CASE 7.—Mrs. H. O., of Hubbard County, about Aug. 1, 1927, pricked the tip of the first finger of her left hand on a briar while picking berries. Several days later a papule developed at the site of the injury, and this subsequently ulcerated. As the patient was unable to speak English, it was difficult to obtain a history. It was learned that she had not handled rabbits, nor had she been bitten by an insect at the site of the ulcer.

Following the formation of the papule, she developed an acute attack of chills and fever, which lasted about two weeks. When we first examined the patient, the acute illness had subsided but the ulcer remained. The epitrochlear and axillary lymph nodes were enlarged. A diagnosis of tularemia was made bacteriologically by guinea-pig inoculation with material obtained from the ulcer. *B. tularense* was subsequently isolated from the infected animals.

In this case it appears impossible to establish any definite source of infection. It is possible that excrement from a wood tick might have contaminated the wound, or, what is more probable, that a deer fly was swatted and rolled under the finger to crush it.

INFECTIONS SIMULATING TULAREMIA

While studies were being carried out on the Hubbard County cases of tularemia, two infections were encountered in the same locality which simulated tularemia. The infections were studied and it was proved that they were not caused by *B. tularense*.

CASE 8.—T. B., a man, was bitten about June 20, 1926, by a wood tick, on the anterior surface of the left tibia. June 24, he noticed a small papule at the point of the bite; he developed chills and fever, with generalized aching in various bones and muscles. He was in bed several days and unable to eat. When seen, July 6, he had a clean-cut ulcer, with the edges undermined, on the site of the original papule. A bluish red zone surrounded the ulcer. Inguinal glands on both sides were enlarged. At this time there was a moderate elevation of temperature. When the patient was seen, July 10, several small ulcers had formed within from 5 to 10 cm. of the primary ulcer. September 11, the general condition was improved, but three unhealed ulcers remained near the site of the original lesion. Three months after the onset of this infection, the patient's serum did not agglutinate *B. tularense*. On two occasions material was scraped from the walls of the ulcer and injected into guinea-pigs without producing any infection in the animals. Clinically this disease simulated tularemia by its sequence to a wood tick bite, its general symptoms and ulcerative lesions. It differed from a typical tularense infection by multiple ulcers which did not develop along the line with lymphatic drainage.

CASE 9.—Mrs. E. B. felt a wood tick bite her leg during the night, about July 1, 1926. She woke up and brushed it off. Several days later she noticed a red papule the size of a pea at the point of the bite. By July 10, the lesion had become an ulcer approximately a centimeter in diameter. No fever, chills or other constitutional disturbances occurred with the formation of the lesion. The ulcer gradually increased in size to about 5 cm. in diameter, surrounded by a red zone 2 cm. in diameter. The ulcer presented a foul-smelling exudate. The lack of constitutional symptoms in this case would tend to eliminate tularemia as a diagnosis but would not conclusively do so. The absence of constitutional symptoms has been observed in a case of reinfection, in which the disease represented only a local lesion. The ulcer was atypical in being foul-smelling and unusually large, with the edges undermined. The blood of the patient failed to agglutinate *B. tularense* about two months after the onset of the disease, and scrapings from the ulcer wall failed to produce infection in guinea-pigs.

COMMENT

From the cases here reported, a number of new facts are brought to light concerning tularemia and its occurrence in Minnesota.

Tularemia occurred in Minnesota as a human infection as early as 1924.

The area south of Itasca State Park is a known area of infection. Cases of human infection occurred in this area in 1924, 1926 and 1927.

An instance of tularemia following a wood tick bite has been demonstrated, proving that the Minnesota

8. Henry, C. E.: Tularemia: Report of a Case, Journal-Lancet, new series 47:305 (Nov.) 1927.

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wood tick is capable of harboring this disease. Three cases of tularemia here described were undoubtedly insect-borne infections, and two of these were probably due to the bite of a deer fly.

Cats appear to be subject to a natural infection with tularemia and may act as intermediate carriers of the disease.

CHRONIC MENINGOCOCCEMIA

REPORT OF CASE*

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Meningococcemias lasting as long as three weeks are still sufficiently rare to warrant rather detailed reports. Only thirteen such cases have been recorded in this country, although papers from French, English and German sources describe a considerable number of such septicemias. Most of these have been observed since the World War, the epidemics of meningococcus origin which occurred at that time serving to focus attention on such infections.

The following case of meningococcemia is reported because:

1. It persisted for a period of five months with consistently positive blood cultures.
2. There was no parallelism between the patient's general condition and the recovery of the organism from the blood stream.
3. There was no endocarditis or any other demonstrable focus of infection.

REPORT OF CASE

History.—R. H., a white man, aged 38, married, a mule trader, was admitted to the isolation division of the Memphis General Hospital, March 24, 1928, with a diagnosis of meningitis. February 16, while returning home late at night, he had been suddenly seized with severe headache, radiating from the frontal to the occipital region, which was accompanied by chills, fever and nausea. He was confined to his bed for only two days, after which time he resumed his usual activities. Recurrent attacks of this nature occurred at irregular intervals, the periods of remission becoming shorter and the attacks more severe and of longer duration. After an unusually severe attack he was brought to the Methodist Memorial Hospital, Memphis, March 21, where a routine blood culture yielded meningococcus. Signs of meningitis appeared and he was transferred to the isolation division of the Memphis General Hospital, March 24.

The past history was insignificant.

Examination.—The patient appeared well nourished but acutely ill, with a maculopapular eruption extending over the chest, abdomen and extremities. There was stiffness of the neck, and positive Kernig and Brudzinski signs, with some general rigidity and muscular pain.

Spinal puncture yielded turbid fluid under increased pressure with a cell count of 6,800. Gram-negative intracellular and extracellular diplococci were demonstrated on direct smear, and cultures conformed to biologic reactions for meningococcus.

Treatment and Course.—Under vigorous intraspinal and intravenous treatment with antimeningococcus serum, the meningeal signs and symptoms disappeared.

A total of 380 cc. of polyvalent antimeningococcus serum was administered intraspinally and 292 cc. intravenously. Twelve cubic centimeters of autogenous vaccine (1,000 million organisms per cubic centimeter) was also given. In addition, the patient received 2,415 cc. of whole blood in a series of blood transfusions by the indirect method. The usual supportive measures were employed.

April 13, the spinal fluid cell count was normal and no meningococci could be demonstrated in smears or cultures. The blood cultures remained positive, although the general condition of the patient had so improved that he requested his discharge from the hospital.

From April 16 to May 2 there were recurrent attacks of chills, fever and vomiting, which gradually became more severe, and, May 2, signs of meningeal involvement reappeared. A cloudy spinal fluid under increased pressure was obtained on lumbar puncture. Meningococci were again demonstrated in direct smear and culture. This meningeal condition persisted for twenty-four days regardless of intense specific serum treatment, but the cell count of the spinal fluid gradually decreased and the organisms became fewer in number.

May 26, the spinal fluid cell count was normal, and smears and cultures were negative for meningococci; these observations persisted. The blood cultures, however, continued to be positive for meningococcus.

Although the patient no longer manifested any meningeal symptoms, he presented the picture of a grave septicemia, marked by intermittent rise of temperature varying from 97 to 103 F., myalgias and arthralgias, and mental disturbance evidenced by sleeplessness, extreme restlessness and irrational talking. With the combined administration of serum, autogenous vaccine and blood transfusions, the septic symptoms gradually disappeared. His temperature reached normal, June 21, and thereafter remained so.

June 26, the blood culture was negative. The patient was discharged, July 7, entirely normal except for slight deafness in the right ear. Endocarditis, sinusitis and otitis media were ruled out by clinical and laboratory observations as possible foci of infection.

Laboratory Observations.—As previously stated, blood cultures were positive until the last two weeks of hospitalization. Positive blood cultures were obtained in this laboratory on April 13, May 2, May 4, May 8, May 12, May 18, June 1 and June 7; and negative cultures on June 22, June 26 and July 3. For all blood and spinal fluid cultures, two mediums were used as a routine; 1 per cent dextrose-veal infusion broth in flasks, buffered and adjusted to p_H 7.2, and large tubes containing minced brain, covered with dextrose-veal infusion broth. It was found that the lowermost region of the brain medium, where optimal conditions for reduced oxygen tension existed, uniformly yielded a luxuriant growth of meningococci, and diagnostic smears were always made from this area. Growth was not obtained in some cultures before seventy-two hours' incubation, and this finding emphasizes the need of an observation period of at least this duration before such cultures are reported negative. On some cultures dextrose-veal infusion agar plates were poured, but in only two cases did colonies develop. Positive subcultures on blood agar and on dextrose-veal infusion agar containing ascitic fluid 1:3 were readily obtained. Morphologically the organisms were typical, and they fermented dextrose, maltose and mannite, thus fulfilling the accepted cultural reactions for meningococci. The brain medium just described has been found by comparative studies made in this laboratory to yield the highest percentage of positive results in routine blood cultures. In typhoid, however, glycerin-bile broth should be substituted.

The organisms were agglutinated by a commercial polyvalent antimeningococcus serum (1:50), but not by type serums available in this laboratory or by normal horse serum. A culture was sent to Dr. G. W. McCoy of the Hygienic Laboratory, Washington, who obtained agglutination with polyvalent serum and also with type II meningococcus serum, 1:200. At no time did the patient's serum agglutinate the organisms recovered from the blood stream.

The white blood cell count ranged from 11,400 to 23,400; the spinal fluid cell count from 25 to 6,800.

COMMENT

Recent bacteriologic studies have shown that meningococcus meningitis is preceded by or attended with a meningococcemia which is usually of short duration and of secondary importance.

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On the other hand, in true chronic meningococcemias this meningitic localization plays the minor rôle in the disease process, either manifesting itself late in the course of the infection or entirely failing to appear. These observations have emphasized the need of routine intravenous administration of antimeningococcus serum and have offered definite proof of the indirect dissemination of the disease through the blood stream as opposed to the direct route through the nasopharynx or lymphatics draining this area.

We present here a clinical classification of meningococcemias, based on an analysis of cases reported in this country, which are listed in the accompanying table.

CLINICAL CLASSIFICATION OF MENINGOCOCCEMIAS

1. *Acute meningococcemia* (of less than one week's duration before localization in the meninges takes place).

(*a*) Fulminating meningococcemia.

Type case (Herrick [1]). Characterized by sudden onset, symptoms of marked sepsis, petechial rash and clear spinal fluid with a negative globulin, death usually occurring from eight to twenty-four hours after the initial chill. A diagnosis is made by demonstrating the organism in the blood stream before death or by autopsy cultures which yield meningococci from the spinal fluid and heart's blood. These cases show no or very slight gross evidence of meningitis.

(*b*) Meningococcemia (primary) followed by meningitis (localization).

This is the usual course of meningococcic infection. The reports of Blaeslack [2] and others show that two distinct periods may be differentiated: (1) the premeningeal, lasting from twenty-four to seventy-two hours and characterized by an initial bacteremia (which may or may not be detected), chills, toxemia, petechiae and clear spinal fluid, and (2) the meningeal, with signs and symptoms of true meningitis. In 75 per cent of the cases the earliest sign of value in making the diagnosis is (Herrick [1]) the petechial rash, which first appears on the deltoid region, then on the trunk, extremities, mucous membranes and face.

2. *Subacute and chronic meningococcemia* (of more than one week's duration before localization in the meninges takes place).

(*a*) Meningococcemia with metastasis in joints, endocardium, pleura and conjunctiva; with or without late meningeal involvement.

Cecil and Soper's [3] case illustrates subacute meningococcemia with endocardial involvement. The patient was admitted to the hospital with a history of fever, frontal headache, vomiting, lassitude, and pains in the left arm and chest of two weeks' duration. There was a history of acute rheumatic fever fifteen and twelve years before. A presystolic murmur at the apex was noted, but the heart was not enlarged and the action was regular. There was no petechial rash, and Kernig's sign was negative. Four days after the patient's admission to the hospital, blood cultures showed gram-negative diplococci which were thought to be meningococci, and Flexner antimeningococcic serum was administered. No signs of meningitis ever developed and the patient died in coma ten days after admission. Necropsy showed marked vegetation on the mitral valve, composed of fibrin, which in some places had undergone hyaline necrosis. The postmortem diagnosis was acute vegetative endocarditis and chronic mitral and aortic endocarditis of meningococcus origin.

The case described by Dock [4] aptly illustrates chronic meningococcemia with terminal meningeal involvement. A sudden onset with chill was followed by an intermittent quartan type of fever lasting seven months. The febrile periods were accompanied by a red rash on the legs and marked stiffness of the knees. The periods of remission often lasted as long as two weeks, during which times the patient felt quite well. Five months after the onset of disease a systolic murmur was noted at the apex and terminal meningitis developed two months later. Postmortem observations were those of meningitis, i. e., hyperemia and edema of the brain, with thin purulent fluid throughout the subarachnoid spaces, especially in the sylvian fissures and at the base of the brain. Blood cultures taken on the twenty-third and twenty-sixth day of the last month of illness were

Prolonged Meningococcemias Reported in the United States

	Duration of Septicemia	Clinical Course	Outcome
Warfield and Walker: J. Bull. Ayer Clin. **1**: 81, 1923..	6 weeks	Sudden onset, recurrent chills, fever; no meningeal symptoms; endocarditis	Death and autopsy; acute ulcerative endocarditis
Cecil and Soper: Arch. Int. Med. **8**: 1 (April) 1911.....	24 days	Vague septic symptoms, recurrent chills, fever, headache; endocarditis	Death and autopsy; acute vegetative mitral endocarditis
Bray: Arch. Int. Med. **16**: 487 (Sept.) 1915.....	5 months	Recurrent chills, fever, joint soreness; no meningitis	Recovery
Maxcy: J. Infect. Dis. **22**: 470 (Nov.) 1918.....	3 months	Influenza-like beginning; mild meningitis lasting 13 days	Recovery
Herrick: Arch. Int. Med. **23**: 409 (April) 1919.....	2½ months	Subacute septic symptoms; no meningitis.....	Recovery
Herrick: Arch. Int. Med. **23**: 409 (April) 1919.....	2½ months	Septic symptoms; late meningitis, developed 62 days after onset	Recovery
Morgan: Bull. Johns Hopkins Hosp. **32**: 245 (Aug.) 1921	4½ months	Vague septic symptoms which persisted; no meningitis	Recovery
Morgan: Bull. Johns Hopkins Hosp. **32**: 245 (Aug.) 1921	3 months	Sudden onset following extraction of tooth; recurrent chills and fever; meningitis on 56th day	Recovery
Bloedorn: Am. J. M. Sc. **162**: 881 (Dec.) 1921.....	2 months	Recurrent chills and fever; joint soreness; no meningitis	Recovery
Dock: J. A. M. A. **83**: 31 (July 5) 1924.....	7 months	Recurrent chills, fever; endocarditis; late meningitis with meningococci in spinal fluid	Death and autopsy; vegetative endocarditis meningitis
Neergaard: M. Clin. North America **9**: 461 (Sept.) 1925	4 months	Sudden onset, septic course, joint soreness; no meningitis	Recovery
Marlow: J. A. M. A. **92**: 619 (Feb. 23) 1929.....	3 months	Sudden onset, intermittent attacks of chills, fever; no meningitis	Recovery
Graves, Dulaney and Michelson, 1929	5 months	Sudden onset, septic course, joint soreness; two meningeal attacks	Recovery

1. Herrick, W. W.: Meningitis at Camp Jackson, J. A. M. A. **70**: 227 (Jan. 26) 1918.
2. Blaeslack, F. W.: Cultivation of the Meningococcus Intracellularis (Weichselbaum) from the Blood, J. A. M. A. **70**: 684 (March) 1918.
3. Cecil, R. L., and Soper, W. B.: Meningococcus Endocarditis with Septicemia, Arch. Int. Med. **8**: 1 (April) 1911.
4. Dock, William: Intermittent Fever of Seven Months' Duration Due to Meningococcemia, J. A. M. A. **83**: 31 (July 5) 1924.

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positive for gram-negative diplococci, and the same organism was obtained from the spleen and spinal fluid at postmortem examination.

(*b*) Meningococcemia without metastasis.

Type case (Neergaard[5]). For nine weeks previous to admission, the patient had suffered from chills and fever, occurring every afternoon or evening, and pain in the legs. There was loss of weight, skin lesions, leukocytosis and an intermittent type of fever ranging from 100 to 103.4 F. Thirteen weeks after the onset of the disease, the blood culture was positive for gram-negative diplococci, which were not agglutinated by antimeningococcus serum. There was a gradual disappearance of all symptoms, and the patient was discharged 129 days after the onset of the disease. The vague symptoms suggested typhoid, influenza, malaria, septicemia or rheumatic fever, while the rash simulated that occurring in typhoid.

Diagnosis in meningococcemia is often rendered difficult by the lack of characteristic symptoms. The triad of intermittent fever, usually accompanied by chills, the skin eruptions, and the arthropathies should suggest this condition, though the final diagnosis must be substantiated by a positive blood culture.

The intermittent fever is usually of the quartan type and simulates that of malaria. The accompanying chills and sweats of malaria may be lacking or the periodicity may be variable.

The skin manifestations may be purpuric, macular or papular; when papular, they may suggest erythema nodosum without the usual blue border. The sites of predilection are the posterior portion of the elbow, the anterior part of the knee, and, at times, the mucous membranes and face, the lesions often appearing in crops with the rise in temperature. The macules suggest the rose spots of typhoid. The purpuric spots do not disappear on pressure; they may be discrete or confluent, and are most abundant on the extremities, and rarely occur on the face.

The joint involvement is usually slight, the patient complaining of pain which is usually aggravated by movement or palpation. In rare cases, the involvement may be more marked, with the presence of a cloudy or purulent fluid in the joints from which meningococci may be recovered. Usually only one of the larger joints, such as the knee, elbow, shoulder or hip, is affected, but simultaneous involvement of several joints can occur.

From a compilation of the cases of meningococcemia reported in the United States, it may be seen that this condition is relatively rare, this being the thirteenth case described. Our case, furthermore, belongs to the group of chronic meningococcemias with late metastasis in the meninges.

The intermittent type of fever was present, but the periodicity was not regular, the rise occurring every day, or every second or third day. Consistently positive blood cultures were obtained irrespective of clinical observations. Our long series of positive blood cultures indicate the chronic nature of the septicemia and the presence of a definite focus of infection on which we can only speculate. It is interesting to consider the possibility of mural endocarditis which healed spontaneously.

Serum therapy played only a minor rôle in the recovery of the patient, for he received an unusually large amount of serum without apparent benefit.

The accompanying table shows that the prognosis in chronic meningococcemias is extremely favorable and most patients so affected recover unless an endocarditis develops. Only three of the thirteen cases ended fatally: in two cases endocarditis was responsible, while in Dock's case such a condition was secondary to a terminal meningitis.

CONCLUSIONS

1. The case reported here is the thirteenth one of chronic meningococcemia to be described in the American literature.

2. This type of infection may be clinically classified as: (1) acute meningococcemia, which includes (*a*) fulminating meningococcemia, and (*b*) meningococcemia (primary) followed by meningitis (localization); (2) subacute and chronic meningococcemia including (*a*) meningococcemia with metastasis and (*b*) without metastasis.

3. There is relative ease of recovery of the organisms from the blood stream.

5 Neergaard, A. E.: M. Clin. North America **9**: 461 (Sept.) 1925.

ECHINOCOCCUS CYSTS OF THE KIDNEY

MAURICE MELTZER, M.D.
NEW YORK

Echinococcus or hydatid disease of the urinary tract is so infrequently encountered in this country that the diagnosis is likely to be made at the operating table or during the course of a postmortem examination, unless one has had previous experience with this condition. Routine urologic examinations do not elicit any characteristic observations. Tumor formations or advanced infections of the kidney (pyonephrosis) may simulate this disease so far as objective cystoscopic and roentgen studies are concerned. The diagnosis is made certain only when the hooklets of the parasite are identified in the urine or when small cysts are seen during the course of cystoscopic examination.

I was surprised to find at operation in the case reported here an enormous shell of a kidney which was filled with echinococcus cysts varying in size from a small grape to a hen's egg. An accurate count could not be made; approximately there were 800 or 900 cysts; about 200 of these came out crushed and macerated. The kidney was merely a pouch, about the size of a football, which enclosed these cysts.

American textbook descriptions and the literature[1] on this disease are rather meager. Because of the rarity of the disease in this country, the following questionnaire was sent out to members of the American Urological Association. The object of the questionnaire was to compile, up to the present time, the number of cases seen or treated in this country:

1. How many cases of echinococcus cysts of the kidney have you seen?
2. Were you able to trace the source of the infection?
3. Was the condition diagnosed before operation?
4. Result of surgical procedure?
5. If postmortem examination was done, were echinococcus cysts found in other parts of the body?

Twenty-two cases of echinococcus disease of the kidney were reported in the answers received to the questionnaire. This number includes the case described in this paper. In addition, two cases were found dur-

1. Huffman, L. F.: J. Urol. **16**: 197 (Sept.) 1926.

ing the course of autopsy examinations. In 1923, Kretschmer [2] found seventeen cases in the North American literature and added one of his own. Of the twenty-two cases reported, a definite diagnosis by the finding of hooklets in the urine was made in seven cases. Three operative cases were wrongly diagnosed; two were diagnosed as tumor of the kidney, and my case was diagnosed as pyonephrosis. The accompanying table summarizes the experience and contact of American urologists with this disease, when it affects the kidney.

Echinococcus or hydatid disease is caused by *Tenia echinococcus*. This tapeworm most commonly lives in the duodenum of the dog and less often in other carnivorous animals. After expulsion from the carnivorous animal, the eggs may find their way into any one of twenty-seven animals to complete the secondary stage of their development. Man is one of the twenty-seven animals. The means of transmission are various. The contamination from dogs is direct, especially in northern countries, where dogs dwell with their masters in the same dwellings. Indirect contamination comes through vegetables or drinking water polluted by the manure of animals.

Incidence of Echinococcus Disease of the Kidney

Number of cases compiled	22
Number of cases seen during autopsies	3
Number of cases diagnosed by hooklets in urine	7
Number of cases diagnosed as tumors of kidney	2
Number of cases diagnosed as pyonephrosis	1
(Armenia, Italy, Alaska, New Zealand and Mediterranean countries)	
Nephrectomy was done in	16 cases
Number cured	10 cases
Improved	3 cases
Died after operation	3 cases

Of the 3 cases seen during autopsies:
(*a*) Disease present only in kidney.
(*b*) Both diagnosed; in both, disease also found in other parts of body.

Kidney infection is very rare. Among many reported cases of hydatid disease only from 1 to 5 per cent of renal infection is reported. The kidney is so rarely infected because the larva has to go through the liver, heart and lungs and back to and out of the heart before it is even started in the systemic circulation for the kidney. When the eggs are in the stomach or intestine, they develop into the larva stage. This embryo, by means of its hooklets, burrows into the walls of the intestine and thence into a vein, and is then carried along until it finds a lodging place, where it starts to grow.

Hydatid disease of the kidney is nearly always unilateral. The parasite has survived as long as twenty years. It is most common in Iceland, less so in Australia and Argentina, and not uncommon in France, Italy, Greece and Germany; it is rare in America. In 1914, Nicaise [3] collected 474 reports of cases from the foreign literature. In May, 1917, Russell and Kilbane [4] reported their case and reviewed forty-three additional cases; practically all of these case reports were from foreign countries.

In the kidney the cyst acts as a foreign body and becomes surrounded by connective tissue growth. The primary cyst may multiply, so that eventually the number of cysts becomes very great. In the case reported here, the cysts multiplied to such a great number that gradually the renal pelvis and its calices disappeared, and finally the renal parenchyma became so compressed as to form a pouch or container for the cysts. Rupture of a cyst is usually followed by infection, and eventually the picture of pyonephrosis exists.

The symptoms of echinococcus disease of the kidney are not characteristic. The disease is often quiescent for years. Renal or ureteral pain is due to the passage of pieces of cyst wall or pieces of blood clot after the rupture of a cyst; these frequently cause intermittent occlusion of the ureter with secondary stasis of the contents of the renal pelvis. Hematuria may also occur with the rupture of a cyst.

The diagnosis can be made only by the finding of hooklets in the urine. Hooklets are present after the rupture of a cyst. Associated with the hooklets are pus cells and red cells, depending on the degree of infection. If the process is of long standing, a definite tumor mass of the kidney may be palpated. A large mass extending to the crest of the ilium was palpated in the case reported here. Eosinophilia is reported in more than half the cases; such a blood picture is also present in other parasitic conditions. The pyelogram shows varying degrees of pelvic deformity similar to deformities in outline caused by renal tumors, or single or polycystic lesions. The pyelogram, therefore, is not characteristic. In my case the pyelogram showed an increased density in the right kidney region giving the appearance of an ovoid mass, extending down to the level of the fourth lumbar vertebra. The pelvis and its calices were not outlined. Differential diagnosis must be made from polycystic disease, hypernephroma, hydronephrosis and pyonephrosis. As already pointed out, the disease is usually diagnosed only when one has already encountered such a case, correctly or incorrectly diagnosed. If the condition is not diagnosed too late, and if appropriate treatment is rendered, uneventful recovery usually follows.

Nephrectomy should be done as soon as the diagnosis is made. Most of the foreign writers maintain that nephrectomy produces a high mortality rate. In the table given here, in which sixteen nephrectomies are recorded, ten patients are listed as cured and three as improved. Foreign surgeons prefer conservative measures, such as incision and drainage and marsupialization. Definite and up-to-date statistics on the results obtained are not available.

REPORT OF CASE

I. S., a man, aged 55, a metal worker, born in Austria, was admitted to St. Mark's Hospital, June 7, 1928, acutely ill, with a severe reaction following cystoscopy done elsewhere six days before. The chief complaint before this cystoscopy had been slightly blood tinged urine of several months' duration with urinary frequency from ten to twelve times a day and from two to three times a night. The past and personal history did not elicit anything else of importance. On admission to the hospital, the chief complaints were pain in the right upper quadrant of the abdomen, nausea and general malaise. The temperature was 102.5 F., and the pulse rate varied between 105 and 120 a minute. The urine was turbid and blood tinged, and urinary frequency alternated with attacks of urinary retention. Several urine analyses showed specific gravities varying from 1.021 to 1.032, with albumin 3 plus, red cells 2 plus and pus cells 4 plus. The white blood count was 26,000, with 92 per cent polymorphonuclears and 8 per cent lymphocytes. No eosinophils were found. Chemical analysis of the blood showed a urea of 17.8 mg. per hundred cubic centimeters of blood and 187 mg. of sugar. The systolic blood pressure was 110, the diastolic was 70 and the pulse pressure was 40. Physical examination revealed a mass in the right upper quadrant of the

2. Kretschmer, H. L.: Surg. Gynec. Obst. **36**: 196 (Feb.) 1923.
3. Nicaise: Hydatid Cyst of the Kidney, Encylopédie française d'urologie, 1914.
4. Russell, J. I., and Kilbane, E. F.: Ann. Surg. **65**: 585 (May) 1917.

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abdomen extending almost to the crest of the ilium. This region was rigid and quite tender. There was no pain or tenderness in either loin. Cystoscopic examination was not done because of the recent reaction.

A roentgenogram of the urinary tract was negative except for a large shadow in the right upper quadrant of the abdomen corresponding to the mass described. Because of the temperature, and the tenderness and rigidity of the right upper quadrant of the abdomen, a general surgeon was called in consultation. June 14, a diagnosis of acute cholecystitis was made. Special examination of the biliary tract by the Graham method did not help in visualizing the gallbladder.[1] An exploratory abdominal operation was advised, but consent could not be obtained from the patient's relatives.

June 20, the patient was apparently no better and the temperature was 103 F. Cystoscopic examination was done. One hundred cubic centimeters of residual urine was found. A median bar formation at the bladder neck with diffuse cystitis was noted. Both ureters were catheterized; no obstruction was met on either side and the flow was about equal from the two sides. The right specimen was very turbid. Analysis of the urine of the right kidney showed: urea, 0.4 per cent; pus cells, 4 plus (pyuria), and no casts, crystals or tubercle bacilli. From the left side the urea was 2.3 per cent; pus and crystals were not found but a few granular casts were present. A kidney function test showed no dye from the right side, and a very good dye excretion from the left side. A pyelogram was taken of the right side; 25 cc. of 12.5 per cent sodium iodide was injected. This showed an increased density in the right upper quadrant, giving the appearance of an ovoid mass extending down to the level of the fourth lumbar vertebra. The renal pelvis and its calices were not outlined. A diagnosis of a large pyonephrosis was made from the appearance of this pyelogram and from the right-sided pyuria.

An operation was advised, but the family would not give consent. The patient's condition gradually became worse. Finally consent was given, July 10 (thirty-three days after admission). On this date the general condition was poor, the temperature was up to 105 F., and the pulse was 130 and thready in quality. During all this interval the patient had been treated with clyses, forced fluids and the usual cardiac stimulants. July 11, under gas oxygen anesthesia, a right nephrectomy was done. Soon after the operation began, an infusion had to be given. An enormously enlarged kidney, the size of a football, was removed. The next day, and again two days later, blood transfusions of 500 cc. were given. The patient did not respond to treatment and died, July 15. Postmortem examination was not permitted.

Grossly the kidney was about the size and shape of a football; the ureter was markedly thickened. When the kidney was sectioned, hundreds of various sized cysts escaped, together with a very turbid fluid. The cysts varied in size from a small grape to a hen's egg. Many of the cysts came out crushed and macerated. What remained of the kidney was merely a thickened pouch of atrophied parenchyma, whose contents were cysts and turbid fluid. Microscopically, scolices and hooklets, characteristic of the echinococcus parasite, were seen. Scolices were also found in the cyst walls.

COMMENT

It is possible that the patient might have lived had his relatives given consent for the operation sooner than they did.

242 East Fifteenth Street.

Treatment of Varicose Veins.—The injection method has several decided advantages over surgery. It does not incapacitate the patient from any of his daily duties. It avoids the scars which after operation may seem more disfiguring and annoying to the patient than the varicosities. As a result, many patients who would refuse operation will consent to the treatment, thus saving themselves the loss of efficiency and the discomfort from their varicosities and avoiding the ever present possibility of future ulceration or phlebitis.—Woolsey, J. H., and Millzner, R. J.: Varicose Veins—Their Chemical Obliteration, *California & Western Med.*, May, 1929.

Clinical Notes, Suggestions and New Instruments

CARBON DIOXIDE INHALATION IN MORPHINE POISONING *

J. R. McCURDY, M.D., PITTSBURGH

The case reported here is presented as an illustration of the usefulness of carbon dioxide-oxygen after an overdosage of morphine. Such application of carbon dioxide was suggested several years ago by me during the early period of my use of carbon dioxide-oxygen in the depressed states of ether anesthesia. The mixture of 10 per cent carbon dioxide and 90 per cent oxygen in an ordinary oxygen cylinder, with the so-called wash-bottle and tubing outfit, is now used extensively in hospitals for relief of respiratory failure of almost any source, such as surgical shock, anesthesia (during and after), cardiac conditions, pneumonia, carbon monoxide poisoning and morphine poisoning. (The nickname "10-90," given by me some years ago, has come into general use.)

REPORT OF CASE

An Italian baby, aged 10 days, was admitted to the hospital, February 13, for an operation for harelip. There was normal development except for the harelip and cleft palate. The patient was slightly undernourished. Physical examination was negative.

Verbal order was given by the surgeon to "prepare for operation," February 18, at 8:30 a. m. As part of the written instructions for preparation, the intern ordered, through misunderstanding of routine instructions for preanesthetic medication, $\frac{1}{48}$ grain of morphine sulphate and $\frac{1}{350}$ grain of atropine sulphate to be given at 8 a. m. (The preparation and administration of this hypodermic was carefully checked and later proved to be accurate; hence there was no question of the patient having received more than $\frac{1}{48}$ grain of morphine.)

The patient seemed normal at 8:20 when sent to the operating room. At 8:35 when the anesthetist approached to begin the administration of ether, the baby was seen to be very cyanotic and its respirations were scarcely perceptible. Oxygen, by the open method, was administered for a few minutes and the baby was returned to bed, where artificial respiration and oxygen was continued until 10:20. The color could be kept fairly good but there was no voluntary respiratory effort whatever. At 10:30 the carbon dioxide-oxygen mixture (10-90) was begun; the pelvis was elevated, the head lowered and adjusted to prevent tongue obstruction, and a liberal stream of 10-90 allowed to flow into the open mouth from wash-bottle tubing. Respirations became full and regular in a few minutes, the color pink and the general condition good. At 11 o'clock $\frac{1}{500}$ grain of strychnine sulphate was administered hypodermically together with 20 minims (1.25 cc.) of brandy with black coffee by rectum. The carbon dioxide-oxygen mixture was continued without stopping until midnight, except for three or four test interruptions during the afternoon and evening, which were followed by an immediate return to slow shallow respirations and cyanosis. Voluntary respiration was gradually reestablished and 10-90 was discontinued at midnight. A normal condition was maintained thereafter, and the operation for harelip was performed uneventfully on February 25 under ether vapor oral insufflation, without preanesthetic medication.

COMMENT

The administration of a 10 per cent mixture of carbon dioxide to so young a patient, or even to an adult, may be questioned, and no less an authority than Yandell Henderson advises not more than 5 per cent for postanesthetic treatment. A moment's consideration, however, of my method—entirely open—will show that the patient receives into the lungs very much less than 10 per cent because of dilution with inspired air, whereas Henderson's method employs a closed inhaler. The sign of an overdosage of carbon dioxide, overstimulated respiration, is unmistakable, and no harm can be done if the dosage is remitted or reduced promptly when this sign appears.

* From the anesthesia department, St. Francis Hospital.

SIMPLIFIED APPARATUS FOR BUCK'S EXTENSION *

HUGH T. JONES, M.D., ROCHESTER, MINN.

The many and varied appliances used to fasten a pulley at the foot of a bed in order that Buck's extension may be applied are unsightly. Most of them depend for fixation to the bed on various clamps, or even bandages and adhesive tape.

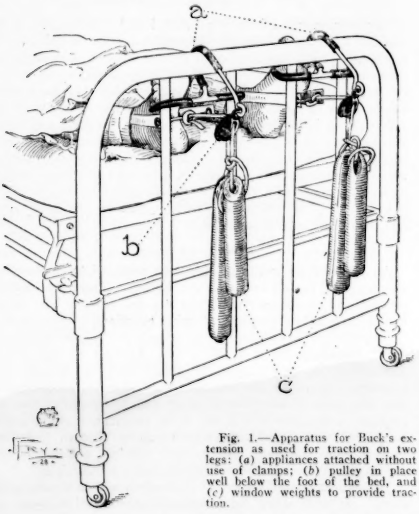

Fig. 1.—Apparatus for Buck's extension as used for traction on two legs: (*a*) appliances attached without use of clamps; (*b*) pulley in place well below the foot of the bed, and (*c*) window weights to provide traction.

In the hope of fashioning a better type of appliance, I consulted Mr. L. W. Roessler, bracemaker at the Mayo Clinic, with regard to a contrivance by which a pulley could be placed at the foot of the bed without the use of clamps, specifying that the pulley should be from 6 to 8 inches (15 to 20 cm.) below

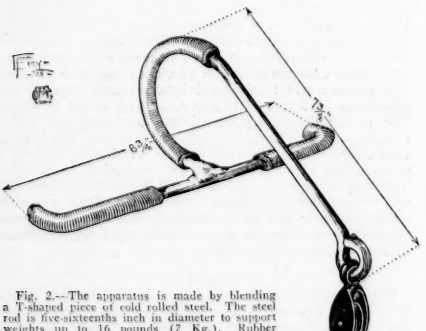

Fig. 2.—The apparatus is made by blending a T-shaped piece of cold rolled steel. The steel rod is five-sixteenths inch in diameter to support weights up to 16 pounds (7 Kg.). Rubber tubing is used to protect the enamel on the beds.

or distal to the foot of the bed in order that the traction would not so easily become ineffective if the patient's foot should come against the pulley. My ideas of such a contrivance were completely outclassed by the apparatus that was made by Mr. Roessler. I am glad to present his appliance in the accompanying illustrations.

* From the Section on Orthopedic Surgery, the Mayo Clinic.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, Secretary.

BISMARSEN. — Sulpharsphenamine Bismuth. — Bismuth Arsphenamine Sulphonate.—The sodium salt of a bismuth derivative of arsphenamine methylene sulphonic acid (the exact structural formula of which has not been established) with inorganic salts. It contains approximately 13 per cent of arsenic and 24 per cent of bismuth.

Actions and Uses.—For the treatment of syphilis. According to Stokes and Chambers (*J. A. M. A.* **89**:1500 [Oct. 29] 1927) the drug is somewhat slower in its action than intramuscularly administered sulpharsphenamine or intravenously administered neoarsphenamine, but much more rapid than bismuth. More or less severe pains at the site of injection have been reported.

Dosage.—Bismarsen is administered intramuscularly. The initial dose is 0.1 Gm.; for succeeding doses Stokes and Chambers used 0.2 Gm. each of the drug dissolved in ampule with 1 cc. of sterile distilled water at the time of administration, adding to the solution 2 to 3 drops of a 2 per cent solution of butyn. At the time of reporting, however, the authors questioned the desirability of using the local anesthetic. Weekly increasing to biweekly doses were used in treatment courses of twenty doses.

Manufactured by the Abbott Laboratories, North Chicago, Ill. U. S. patent 1,605,691 (Nov. 2, 1926; expires 1943). U. S. trademark applied for.

Bismarsen is a brownish yellow amorphous powder readily soluble in water, yielding a yellow solution which is slightly alkaline to litmus.

Add 2 cc. of diluted hydrochloric acid to 5 cc. of a 1 per cent solution of bismarsen: a white opalescence appears and dissolves almost immediately; a heavy white gelatinous precipitate develops in two minutes. Add 1 cc. of diluted nitric acid to 5 cc. of a 1 per cent solution of bismarsen: the solution gradually turns brown and yields a precipitate. Add 1 cc. of trinitrophenol solution to 5 cc. of a 1 per cent solution of bismarsen: no apparent reaction takes place (*distinction from silver arsphenamine and potassium bismuth tartrate*). Bubble hydrogen sulphide through a 1 per cent solution of bismarsen: the solution darkens immediately but no precipitate is formed. Add 5 cc. of hydrogen peroxide solution to 5 cc. of a 1 per. cent solution of bismarsen: the solution is at first turbid, then becomes a deep reddish brown with formation of a precipitate. Add 1 cc. of mercuric potassium iodide solution to 5 cc. of a 1 per cent solution of bismarsen: the solution yields a greenish yellow opalescence, which in turn assumes a dirty green color on standing. Add drop by drop 2 cc. of a 40 per cent sodium hydroxide solution to 5 cc. of a 1 per cent solution of bismarsen: the solution gradually darkens without any formation of precipitate. Add 0.5 cc. of a 2 per cent silver nitrate solution to 5 cc. of a 1 per cent solution of bismarsen: a dark red solution is produced (*distinction from arsphenamine*). Add 1 cc. of a saturated solution of bromine in water to 5 cc. of a 1 per cent solution of bismarsen: the solution yields a greenish brown precipitate (*distinction from sulpharsphenamine, neoarsphenamine and arsphenamine*). Add 0.5 Gm. of zinc dust and 5 cc. of diluted hydrochloric acid to 0.1 Gm. of bismarsen in a test tube, at the mouth of the tube hold a strip of filter paper moistened with 5 per cent cadmium chloride solution: the paper turns yellow in four minutes.

Transfer about 0.4 Gm. of bismarsen, accurately weighed, to a Kjeldahl flask, add 2 cc. of sulphuric acid and heat carefully; add 2 cc. of nitric acid a drop at a time, continue heating until brown fumes cease to be given off, cool and add water to make 120 cc.; if a white crytalline precipitate appears dissolve it with a few drops of hydrochloric acid; transfer to a 250 cc. beaker, add 7 Gm. of tartaric acid, neutralize with strong ammonia water, add 10 cc. of magnesia mixture followed by 20 cc. stronger ammonia water, allow to stand twelve hours, filter through a hard surface filter paper and wash the precipitate with 50 cc. of 2.5 per cent ammonia water, puncture the filter, transfer the precipitate into a 250 cc. beaker with washings, then add just sufficient hydrochloric acid to dissolve the precipitate, filter, wash the filter well with water, neutralize the filtrate with stronger ammonia water; add 1 cc. of magnesia mixture and 20 cc. of stronger ammonia water; allow to stand twelve hours; filter, using a prepared Gooch crucible; wash with 2.5 per cent ammonia water; dry at 100 C.; ignite at 700 C. for three hours; cool in a desiccator and weigh as magnesium pyroarsenate and calculate to arsenic: the arsenic content is not less than 12.50 per cent, nor more than 13.50 per cent. Transfer about 0.25 Gm. of bismarsen accurately weighed to an Erlenmeyer flask. Add 5 cc. of diluted sulphuric acid followed by 1 Gm. of powdered potassium permanganate, and 10 cc. of sulphuric acid in small portions; add just sufficient hydrogen peroxide to dissolve the brown precipitate; add 50 cc. of water; boil for twenty minutes; cool to 70 C.; saturate with hydrogen sulphide for twelve hours; filter, using a prepared Gooch crucible; wash the precipitate with water, warm ammonium polysulphide, methyl alcohol, carbon bisulphide and acetone in the order named; dry at 100 C.; cool in a desiccator and weigh as bismuth sulphide (Bi_2S_3); calculate to bismuth: the percentage of bismuth found corresponds with the percentage of arsenic found multiplied by 1.86 (factor As to Bi in $C_{21}H_{21}O_{12}As_3Na_3S_3N_2Bi_2$) plus or minus 0.5 per cent.

THE PORTLAND SESSION

AMERICAN MEDICAL ASSOCIATION, EIGHTIETH ANNUAL SESSION
PORTLAND, ORE., JULY 8-12, 1929

OFFICIAL CALL

TO THE OFFICERS, FELLOWS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The eightieth annual session of the American Medical Association will be held in Portland, Ore., July 8-12, 1929.

The House of Delegates will convene at 10 a. m., Monday, July 8. In the House the representation of the various constituent associations for 1929, 1930 and 1931 is as follows:

Alabama	3	New Hampshire	1
Arizona	1	New Jersey	4
Arkansas	2	New Mexico	1
California	6	New York	15
Colorado	2	North Carolina	3
Connecticut	2	North Dakota	1
Delaware	1	Ohio	7
District of Columbia	1	Oklahoma	3
Florida	2	Oregon	1
Georgia	3	Pennsylvania	11
Idaho	1	Rhode Island	1
Illinois	10	South Carolina	2
Indiana	4	South Dakota	1
Iowa	3	Tennessee	3
Kansas	3	Texas	5
Kentucky	3	Utah	1
Louisiana	2	Vermont	1
Maine	2	Virginia	3
Maryland	2	Washington	2
Massachusetts	6	West Virginia	2
Michigan	5	Wisconsin	3
Minnesota	3	Wyoming	1
Mississippi	2	Alaska	1
Missouri	5	Hawaii	1
Montana	1	Isthmian Canal Zone	1
Nebraska	2	Philippine Islands	1
Nevada	1	Porto Rico	1

The fifteen scientific sections of the American Medical Association, the Medical Corps of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The Scientific Assembly of the Association will open with the general meeting to be held at 8:30 p. m., Tuesday, July 9. The sections will meet Wednesday, Thursday and Friday, July 10, 11 and 12, as follows:

CONVENING AT 9 A. M., THE SECTIONS ON

Practice of Medicine.
Obstetrics, Gynecology and Abdominal Surgery.
Laryngology, Otology and Rhinology.
Pathology and Physiology.
Preventive and Industrial Medicine and Public Health.
Urology.
Orthopedic Surgery.
Radiology.

CONVENING AT 2 P. M., THE SECTIONS ON

Surgery, General and Abdominal.
Ophthalmology.
Diseases of Children.
Nervous and Mental Diseases.
Pharmacology and Therapeutics.
Dermatology and Syphilology.
Gastro-Enterology and Proctology.

The Registration Department will be open from 8:30 a. m. until 5:30 p. m., Monday, Tuesday, Wednesday and Thursday, July 8, 9, 10 and 11, and from 8:30 a. m. to 12 noon, Friday, July 12.

WILLIAM S. THAYER, President.
FREDERICK C. WARNSHUIS, Speaker, House of Delegates.
OLIN WEST, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete, as a number of the state associations are yet to hold their meetings at which delegates will be elected. The following is a list of the holdover delegates and of the newly elected members who have been reported to the Secretary in time to be included:

STATE DELEGATES

ALABAMA
B. S. Lester, Birmingham.
G. A. Hogan, Birmingham.
A. A. Walker, Birmingham.

ARIZONA
R. D. Kennedy, Globe.

ARKANSAS
Homer Scott, Little Rock.
William R. Bathurst, Little Rock.

CALIFORNIA
Martha Welpton, San Diego.
Dudley Smith, Oakland.
Albert Soiland, Los Angeles.
Percy T. Magan, Los Angeles.
Victor G. Vecki, San Francisco.
Junius B. Harris, Sacramento.

COLORADO
O. M. Gilbert, Boulder.
J. W. Amesse, Denver.

CONNECTICUT
Walter Ralph Steiner, Hartford.
John Edward Lane, New Haven.

DELAWARE
George W. K. Forrest, Wilmington.

DISTRICT OF COLUMBIA
Henry C. Macatee, Washington.

FLORIDA
John S. Helms, Tampa.
Shaler Richardson, Jacksonville.

GEORGIA
Allen H. Bunce, Atlanta.
William H. Myers, Savannah.
E. C. Thrash, Atlanta.

IDAHO
George R. Proctor, Nampa.

ILLINOIS
William Allen Pusey, Chicago.
E. P. Sloan, Bloomington.
T. O. Freeman, Mattoon.
Charles J. Whalen, Chicago.
G. Henry Mundt, Chicago.
C. S. Skaggs, East St. Louis.
Mather Pfeiffenberger, Alton.
R. L. Green, Peoria.
C. E. Humiston, Chicago.
J. W. Van Derslice, Oak Park.

INDIANA
A. E. Bulson, Fort Wayne.
E. M. Shanklin, Hammond.
David Ross, Indianapolis.
Harry Elliott, Brazil.

IOWA
Donald Macrae, Jr., Council Bluffs.
Bert L. Eiker, Leon.
Thomas F. Thornton, Waterloo.

KANSAS
J. F. Hassig, Kansas City.
John A. Dillon, Larned.
F. A. Carmichael, Osawatomie.

KENTUCKY
Irvin Abell, Louisville.
George A. Hendon, Louisville.
A. T. McCormack, Louisville.

LOUISIANA
S. M. Blackshear, New Orleans.
W. H. Seemann, New Orleans.

MAINE
Bertram L. Bryant, Bangor.
Frank Y. Gilbert, Portland.

MARYLAND
Elliott H. Hutchins, Baltimore.
Randolph Winslow, Baltimore.

MASSACHUSETTS
H. G. Stetson, Greenfield.
C. E. Mongan, Somerville.
J. F. Burnham, Lawrence.
William H. Robey, Boston.
E. F. Cody, New Bedford.
Roger I. Lee, Boston.

MICHIGAN
C. E. Boys, Kalamazoo.
Carl F. Moll, Flint.
C. S. Gorsline, Battle Creek.
J. D. Brook, Grandville.
A. W. Hornbogen, Marquette.

MINNESOTA
J. C. Litzenberg, Minneapolis.
H. M. Johnson, Dawson.
W. F. Braasch, Rochester.

MISSISSIPPI
John Darrington, Yazoo City.
W. H. Frizell, Brookhaven.

MISSOURI
E. H. Skinner, Kansas City.
S. L. Baysinger, Rolla.
A. R. McComas, Sturgeon.
Emmett P. North, St. Louis.
E. J. Goodwin, St. Louis.

MONTANA
C. T. Pigot, Roundup.

NEBRASKA
A. D. Dunn, Omaha.
R. W. Fouts, Omaha.

NEVADA
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NEW HAMPSHIRE
D. E. Sullivan, Concord.

NEW JERSEY
W. Blair Stewart, Atlantic City.
John F. Hagerty, Newark.
B. S. Pollak, Secaucus.

NEW MEXICO

NEW YORK

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Orrin Sage Wightman, New York.
G. A. Leitner, Piermont.
N. B. Van Etten, New York.
D. S. Dougherty, New York.
J. N. Vander Veer, Albany.
J. Richard Kevin, Brooklyn.
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John A. Card, Poughkeepsie.
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Arthur J. Bedell, Albany.
Arthur W. Booth, Elmira.
Thomas C. Chalmers, Forest Hills.
Frederick H. Flaherty, Syracuse.

NORTH CAROLINA

J. Q. Myers, Charlotte.
M. L. Stevens, Asheville.
Charles A. Woodard, Wilson.

NORTH DAKOTA

Charles MacLachlan, New Rockford.

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Ben R. McClellan, Xenia.
E. R. Brush, Zanesville.
George Edward Follansbee, Cleveland.
John P. DeWitt, Canton.
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Horace Reed, Oklahoma City.

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William Kuykendall, Eugene.

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SOUTH DAKOTA

TENNESSEE

L. L. Sheddan, Knoxville.
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TEXAS

J. W. Burns, Cuero.
W. B. Russ, San Antonio.
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Holman Taylor, Fort Worth.
F. P. Miller, El Paso.

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VIRGINIA

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WASHINGTON

J. H. O'Shea, Spokane.
Frederick Epplen, Seattle.

WEST VIRGINIA

Henri P. Linsz, Wheeling.
James R. Bloss, Huntington.

WISCONSIN

Joseph F. Smith, Wausau.
William E. Bannen, La Crosse.
J. Gurney Taylor, Milwaukee.

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George P. Johnston, Cheyenne.

ALASKA

HAWAII

C. B. Cooper, Honolulu.

ISTHMIAN CANAL ZONE

PHILIPPINE ISLANDS

PORTO RICO

GOVERNMENT SERVICES

United States Army, Herbert C. Mallory.
United States Navy, Norman J. Blackwood.
United States Public Health Service, W. F. Draper.

DELEGATES FROM THE SECTIONS

PRACTICE OF MEDICINE

James S. McLester, Birmingham, Ala.

SURGERY, GENERAL AND ABDOMINAL

J. Tate Mason, Seattle.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

John O. Polak, Brooklyn.

OPHTHALMOLOGY

William H. Wilder, Chicago.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY

Burt R. Shurly, Detroit.

DISEASES OF CHILDREN

Isaac A. Abt, Chicago.

PHARMACOLOGY AND THERAPEUTICS

Paul D. White, Boston.

PATHOLOGY AND PHYSIOLOGY

D. J. Davis, Chicago.

NERVOUS AND MENTAL DISEASES

Tom B. Throckmorton, Des Moines, Iowa.

DERMATOLOGY AND SYPHILOLOGY

Frank W. Cregor, Indianapolis.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

W. S. Leathers, Nashville, Tenn.

UROLOGY

Arthur L. Chute, Boston.

ORTHOPEDIC SURGERY

Frank D. Dickson, Kansas City, Mo.

GASTRO-ENTEROLOGY AND PROCTOLOGY

Frank Smithies, Chicago.

RADIOLOGY

James T. Case, Battle Creek, Mich.

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* Deceased.

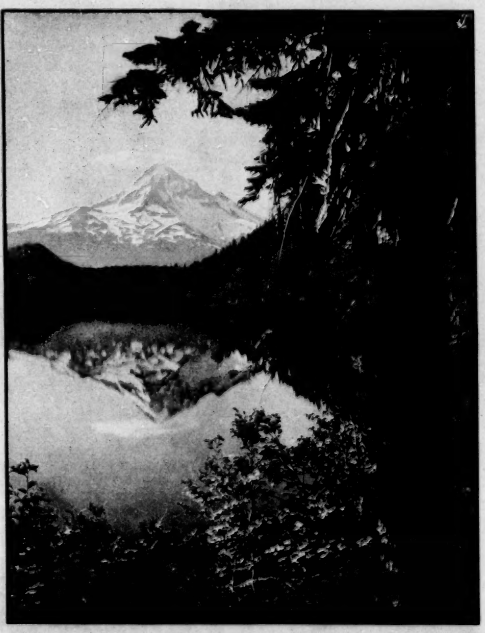
THE CITY OF ROSES

The Attractions of the Convention City in the Northwest

About eighty-four years ago, two New Englanders who had pioneered into the Oregon country tossed a copper penny to decide the name of the townsite which they had platted: "heads" for Boston, "tails" for Portland. Mr. Lovejoy of Maine won the toss from Mr. Pettygrove of Massachusetts, and Portland, Oregon, did not become Boston, Oregon.

Such was the beginning of Oregon's metropolis. Beneath the starry skies which looked down on two tired pioneer founders beside their flickering campfire now twinkle the myriad lights of a city of 357,000 people. The forests lining the banks of the river have been succeeded by miles of docks, elevators and terminals. From these docks travel fifty-eight steamship lines carrying products down the picturesque and historic Columbia River to the Pacific Ocean, and thence over the seven seas to all the markets of the world. Portland has become the first city in the United States in the manufacture and export of lumber, first in export of wheat, second in export of apples, and fourth in export of flour. It is the premier wool export center and leads the Pacific Coast as a livestock market and in the manufacture of woolen textiles. The natural advantages of the Columbia River gorge as an air route promise to make Portland one of the leading airports of the country.

It is, however, as a residential city and tourist center that Portland is so attractive to convention delegates. Although it is an industrial city with 1,250 manufacturing plants, its atmosphere is always clear, its skies are blue, and its background is a perpetual living green. Nowhere in America are there more beautiful gardens with such a profusion of flowers. Its roses have earned for Portland the title "The City of Roses." It is a city of homes, of hospitality and of beauty within the shadow of the perpetually snow-capped Mount Hood, whose majestic peak broods over this garden spot of America.



MOUNT HOOD, 11,225 FEET HIGH, WITH CLOUD CAP, FROM LOST LAKE

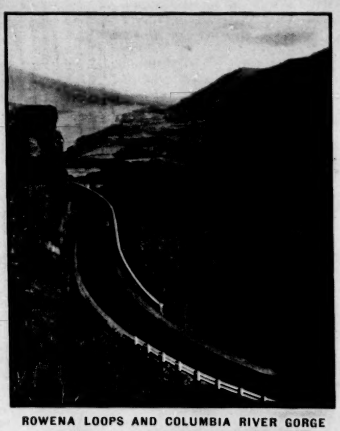
Portland is also the medical center of the great Northwest. Here is situated the University of Oregon Medical School, the only medical educational institution north of San Francisco or west of Denver. The Medical School, the Doernbacker Hospital, the County Hospital and the new million and a half dollar Veterans' Hospital form an imposing group on Marquam Hill framed in the green of the wooded foothills that surround the western half of the city. There are forty-three hospitals and sanatoriums in Portland, a result of its geographic situation and its recognition as a medical center.

The state of Oregon is justly famed as "America's Playground" and Portland is its recreational center. Here in the midst of the nation's last great forest reserve, amid snow-capped mountains, innumerable lakes, mighty rivers and beautiful streams, the tourist and sportsman finds a natural outdoor paradise. Over a radiating system of highways that have cost the state more than 110 millions of dollars in the last ten years, one may find pleasure and relaxation in the virgin forests, along the sandy beaches of the Pacific, by the shores of crystal lakes set like gems in mountain greenery. Camping, hiking, mountain climbing, fishing and all the outdoor sports are available in an unsurpassed scenic setting of color and beauty. The hiker and parties on horseback who leave the paved highways but a short distance find themselves plunged into the heart of an untouched wilderness abounding in all forms of wild animal and bird life. Those who desire more passive entertainment will enjoy the seventeen golf courses of the city, the restfulness of the parks and gardens, or the many drives in and around Portland.

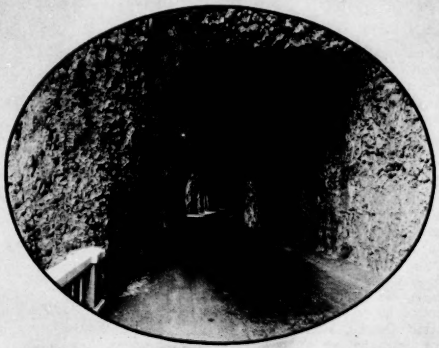
Perhaps the most impressive of the many beautiful drives from Portland is along the Columbia River Highway. Rudyard Kipling described the setting of this remarkable project thirty years before the highway was even surveyed, in the following words: "There are many bridal veil falls in this country but few, men say, lovelier than those that come down to the Columbia River. There the scenery began —poured forth with the reckless profusion of Nature, who when she wants to be amiable succeeds only in being impressively magnificent. The river was penned between gigantic stone walls crowned with the ruined bastions of Oriental palaces. The stretch of green water widened and was guarded by pine-clad hills three thousand feet high. A wicked devil's thumb nail of rock shot up a hundred feet in midstream. A sand-bar of dazzling white sand gave promise of flat country that the next bend denied; for lo! we were running under a triple tier of fortifications, lava-topped, pine-clothed and terrible. Behind them the white dome of Mount Hood ran fourteen thousand feet into the blue, and at their feet the river threshed among a belt of cottonwood trees."

With the completion of the highway, this beauty, the dazzling water-falls, the cool moss-covered rock canyons, the towering cliffs, the mighty river with its background of forests and mountains daily beckon thousands from the hurry and clamor of the city.

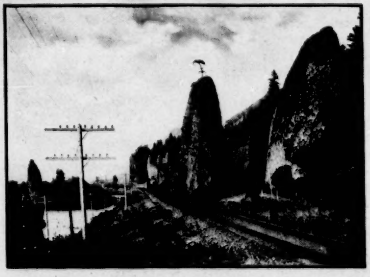
Along the Pacific coast line the Roosevelt Highway rivals the Columbia River Highway with the stretches of white sand



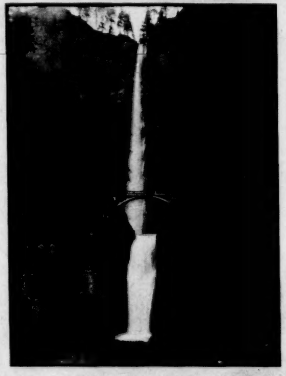
ROWENA LOOPS AND COLUMBIA RIVER GORGE
Looking toward The Dalles, Ore.



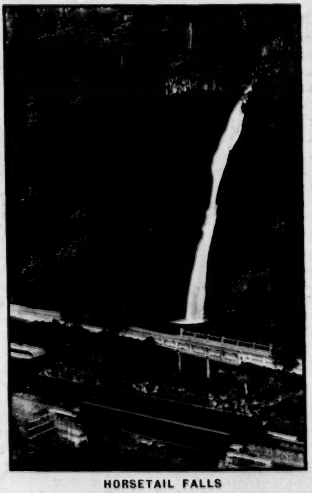
MITCHELL POINT TUNNEL
Columbia River Highway



PILLARS OF HERCULES



MULTNOMAH FALLS
Columbia River Highway



HORSETAIL FALLS
Columbia River Highway

VISTA HOUSE
Columbia River Highway and Gorge on Crown Point

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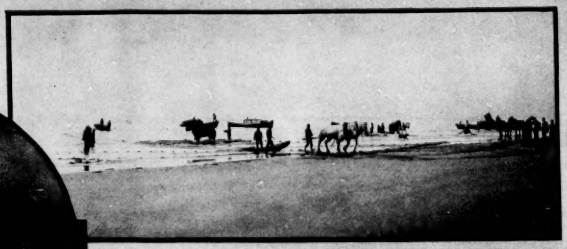
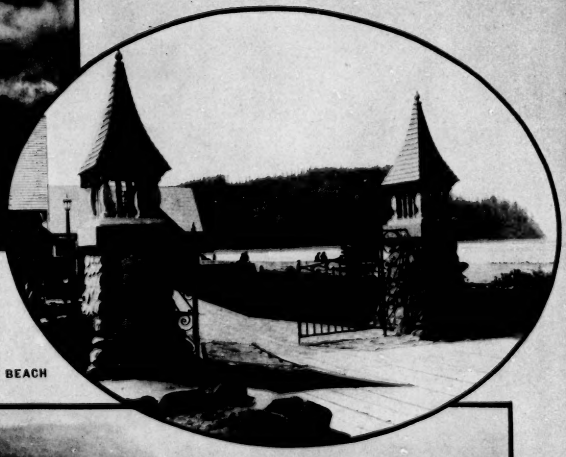


FISHING FOR SALMON WITH HORSES NEAR ASTORIA, ORE.

ASTORIA COLUMN, ASTORIA, OREGON

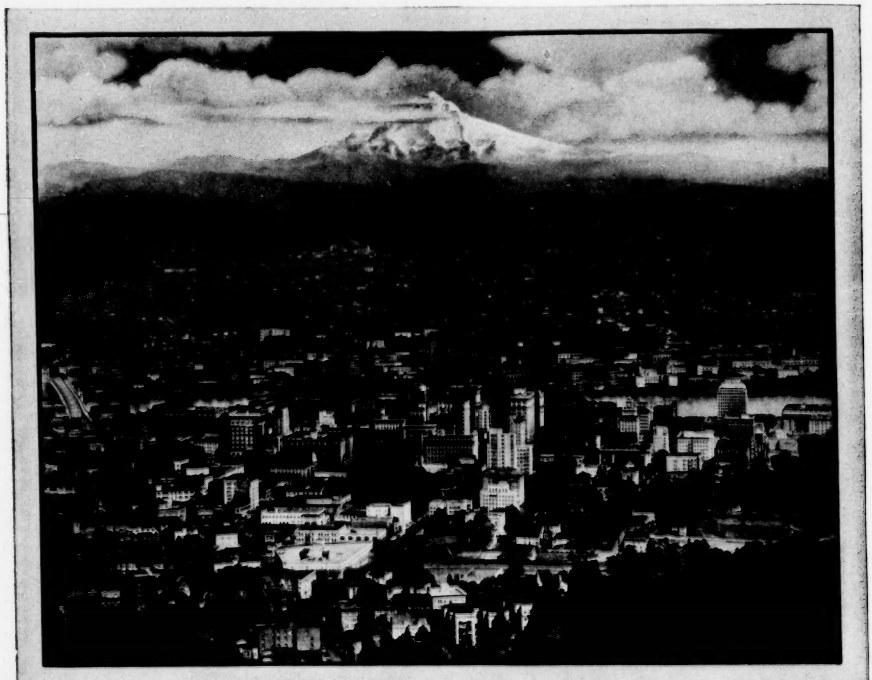


ASTORIA SEASIDE CANNON BEACH

THE TURN-AROUND AT SEASIDE

beaches with their blue and green ocean backgrounds, from which they are divided by the ever-shifting lines of foaming surf; the rough and jagged rocky headlands, and towering cliffs along which the road winds its way far above the breakers wrecking themselves into foam and spray below.

Then down the Columbia is another remarkably beautiful highway, leading to Astoria with its many points of historical interest, its fishing industry and, beyond, lovely beach resorts offering golfing, clamming, fishing and the various activities of an ocean beach. In southern Oregon will be found the Oregon Caves, gorgeously beautiful Crater Lake; in eastern Oregon the Wallowa Mountains, known as the "Little Alps of America," and to the north in Washington majestic Mount Rainier. Portland gladly extends these natural bounties to her convention guests. Side trips will afford an opportunity to climb a majestic mountain peak, visit the beauty spots of the Columbia River Highway, enjoy the Pacific beaches, sail down the mighty Columbia River, and follow the mountain trails on horseback down the backbone of the Cascade Mountain Range to Crater Lake. Those guests who wish to plan their summer vacations in connection with the American Medical Association sessions will find innumerable attractions of this great outdoor playground and may follow his own chosen paths to beauty spots all over the Northwest.

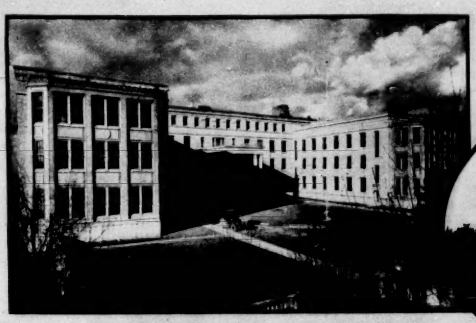


BIRD'S-EYE VIEW OF PORTLAND, WITH MOUNT HOOD IN THE DISTANCE

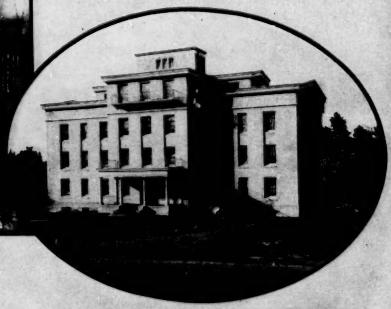
THE MEDICAL SCHOOL AND HOSPITALS

The University of Oregon Medical School was established by charter from the Board of Regents of the University in 1887 and has operated continuously since that time. In response to the general appreciation by the medical profession of the need of more systematic medical education, and in accord with the program of the American Medical Association in establishing the standards, the medical school in 1909 received its first appropriation from the legislature of the state in addition to the tuition fees of students. The appropriation of $30,000 for a two year period enabled the establishment of the preclinical years on a more nearly academic basis and began the more intimate integration of the medical school into the university, located at Eugene, 125 miles from Portland. Ever increasing interest on the part of the people and the profession of the state has resulted in biennial increase in the appropriations for building and maintenance, and, encouraged by private and foundation gifts, an imposing center of medical education and research has been developed in Portland. Of great importance was the merger in 1913 of the Willamette University Medical School with the University of Oregon Medical School, combining in the single institution the entire medical school program for the state and organizing the only modern medical school in the great area north of San Francisco and west of Denver.

A campus of 108 acres at an elevation of 500 feet above the city within five minutes of the business center was acquired through a gift of 20 acres in 1914 by the Union Pacific Railroad Company and 88 acres in 1924 through the gift of Mrs.



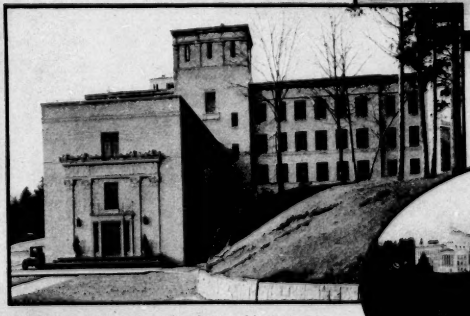
MULTNOMAH HOSPITAL, AFFILIATED WITH THE MEDICAL SCHOOL



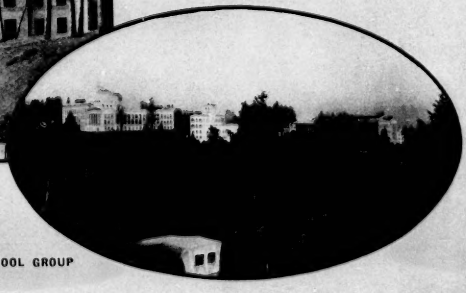
MULTNOMAH HOSPITAL NURSES' HOME, AFFILIATED WITH THE MEDICAL SCHOOL

UNIVERSITY OF OREGON MEDICAL SCHOOL BUILDING

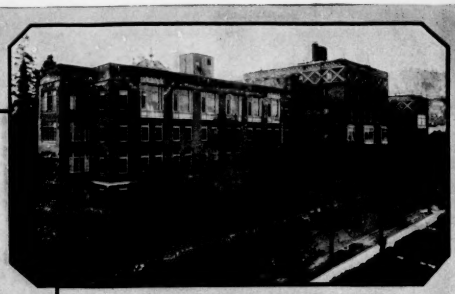
MEDICAL SCHOOL GROUP: MULTNOMAH HOSPITAL AT RIGHT; CHILDREN'S HOSPITAL AT LEFT; MEDICAL SCHOOL IN CENTER



DOERNBECHER MEMORIAL HOSPITAL FOR CHILDREN, UNIVERSITY OF OREGON

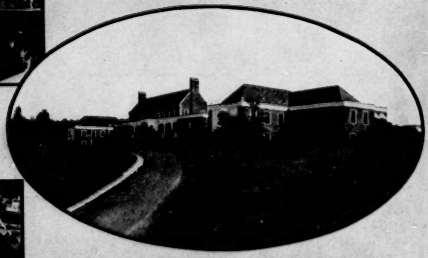


UNIVERSITY OF OREGON MEDICAL SCHOOL GROUP



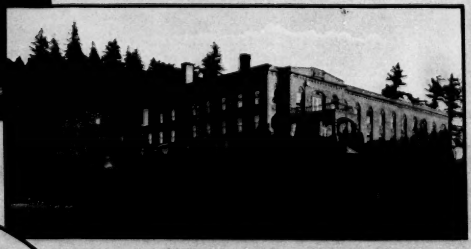
GOOD SAMARITAN HOSPITAL

ST. VINCENT'S HOSPITAL

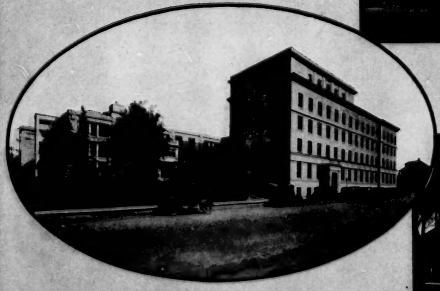


SHRINERS' HOSPITAL FOR CRIPPLED CHILDREN

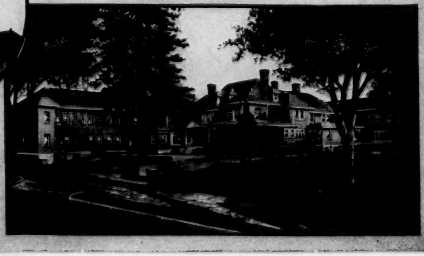
U. S. VETERANS' HOSPITAL



PORTLAND SANITARIUM



EMANUEL HOSPITAL



DR. ROBERT C. COFFEY HOSPITAL

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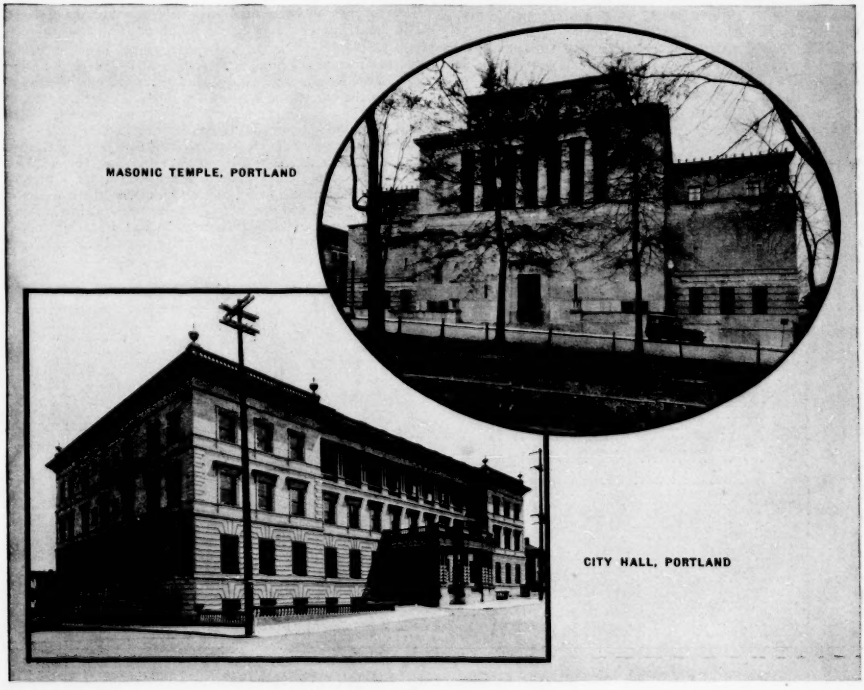
C. S. Jackson and Mr. Phillip Jackson, dedicating the tract as a park named in memory of the late Sam Jackson. The campus is one of exceptional scenic grandeur and adaptive to educational and hospital location, being remote from noise, smoke and dust but readily accessible.

The medical school building housing the preclinical departments surmounts the heights. It was built at a cost of $415,000, of which $225,000 was appropriated by the legislature, $163,000 was appropriated by the General Education Board and $27,000 was donated by the citizens of Portland. It houses the administrative offices, the departments of anatomy, physiology, chemistry, pathology, bacteriology and pharmacology, the library and the art department. These departments possess unusual equipment and facilities, and the library contains 11,000 volumes, with a subscription to more than 280 periodicals.

on a site of 25 acres given by the medical school to the United States government in 1926.

The Portland Free Dispensary is really the outpatient clinic of the medical school and university hospitals. At present situated one mile from the medical school, it is soon to be rebuilt on the campus at a cost of $400,000 recently appropriated for the purpose by the General Education Board. The professional and nursing staff are appointed by the medical school, and clinics are maintained in all departments of teaching in cooperation with numerous civic organizations and the state board of health, the city of Portland and county of Multnomah. Attendance in 1928 comprised 13,400 individual patients.

Although these are the chief clinical teaching units of the medical school, extramural clinics are conducted in the Good Samaritan Hospital, St. Vincent's Hospital, Portland Surgical



MASONIC TEMPLE, PORTLAND

CITY HALL, PORTLAND

Multnomah Hospital of 275 beds, the county charity hospital, built at a cost of $1,000,000, is situated adjacent to the medical school on a tract deeded to the county by the university. Contractual agreement between the medical school and the county commissioners enables the affiliation which establishes this hospital as the chief clinical teaching unit of the medical school. The hospital training school building is located nearby.

The Doernbecher Memorial Hospital for Children, owned and operated by the medical school, is also located adjacent to the medical school. Built and equipped at a cost of $320,000, it was opened in 1925, providing eighty beds for children and modern facilities for the department of pediatrics. It is maintained by state appropriation amounting to $169,240.71 for the biennium.

Augmenting the medical center is the Veterans' Bureau Hospital, built in the campus at a cost of $1,300,000, with 300 beds

Hospital, Emanuel Hospital, Portland Sanitarium, Portland Medical Hospital, Waverly Baby Home, Albertina Kerr Nursery, and the Oregon State Hospital for the Insane.

Contractual agreement with the commissioners of Multnomah County establishes the department of pathology in the medical school as the official autopsy authority of the coroner, affording more than 400 teaching autopsies annually and a remarkable wealth of museum material, as well as excellent facilities for teaching jurisprudence and medicolegal work.

Plans are now afoot for the construction of other contractually affiliated institutions within the campus, including a maternity cottage, a convalescent children's and baby home, a psychiatric hospital, a tuberculosis hospital, the city hospital for contagious diseases, and a university school of nursing.

The annual budget of the medical school is approximately $160,000, for the Multnomah County Hospital $178,000, for the

Children's Hospital $98,000 and for the outpatient clinic $40,000, a total for the center of about $476,000.

Classes in medicine are limited by the board of regents to sixty, and the present enrolment is 236.

The Portland unit of the Shriners' Hospital for Crippled Children is located at Sandy Boulevard and Eighty-Second Street on a site of 10 acres which was donated to the hospital by Al Kader Temple of the Shrine. The hospital is one unit of the elaborate program of the Ancient Arabic Nobles of the Mystic Shrine in behalf of indigent crippled children in the United States and Canada.

The hospital was opened in 1924, having been constructed and equipped at a cost of $367,814. It has a capacity of fifty beds and is devoted to the orthopedic and general medical and surgical care of children under the age of 14 who are crippled or deformed, and in addition to the usual facilities for hospital and surgical care, physical therapy and school training, it conducts an outpatient clinic for crippled children.

TRANSPORTATION

Railroad Rates to Portland

The Transcontinental Passenger Association has announced that before the time of the Portland Session the regular summer excursion fares, which are lower than the usual convention rates, will be in effect from all points east of and including El Paso, Texas; Albuquerque, New Mexico; Ogden and Salt Lake City, Utah, and the state of Montana. These summer excursion rates will also be in effect in the territory of the Western Lines of the Canadian Passenger Association.

It has also been announced by the Tariff Publishing Agent at San Francisco that the lowest fares available from points in California and from Reno, Nevada, will be the sixteen day summer excursion fares; from points in Arizona, fares for summer excursion tickets limited to October 31, and from points in Nevada, east of Reno, passengers may purchase one month tickets to Reno and then sixteen day summer tickets to Portland, Oregon.

The Pacific Northwest Convention Bureau has authorized the round trip rate of fare and one-half on the Identification Certificate Plan from points in Idaho, Washington and Oregon (except on the Southern Pacific) and from stations on the Great Northern in British Columbia. A member or Fellow living in these states who expects to attend the annual session at Portland, Oregon, is requested to write the American Medical Association for one of the Identification Certificates, which will entitle him and dependent members of his family to purchase a round trip ticket to Portland at a rate of one and one-half fares. The dates of sale of these tickets will be from July 4 to July 10, inclusive. The final return limit will be July 16.

The Southern Pacific Railroad Company announces that it will have in effect from all stations on its lines in Oregon round trip fares to Portland which are on a lower basis than on the Identification Certificate Plan outlined.

Special Trains to Portland

In response to many invitations received from orthopedic surgeons of the West, the Section on Orthopedic Surgery is organizing a party to occupy a special train on the Chicago, Milwaukee, St. Paul and Pacific Railroad, leaving Chicago Union Station at 11:30 p. m., July 2, and St. Paul at 11 a. m., July 3, stopping at Spokane, Tacoma and Seattle, where the party will be the guests of the local orthopedic surgeons, and arriving at Portland in plenty of time for the annual session. Reservations can be secured from any agent of the Chicago, Milwaukee, St. Paul and Pacific Railroad.

A special train for the accommodation of members of the American Laryngological, Rhinological and Otological Society will leave Chicago on Sunday, June 30, arriving in San Francisco on the evening of Wednesday, July 3. After the meeting of the society in San Francisco, the party will leave for Portland on Saturday afternoon, July 6, arriving in Portland, July 7. Information concerning this special train may be secured from Dr. W. P. Wherry, 1500 Medical Arts Building, Omaha, Neb.

The Northern Pacific Railway has arranged for a tour by way of Yellowstone Park, leaving Chicago on the morning of Sunday, June 30, and arriving in Portland at 7 a. m., Monday, July 8. Complete information may be had from Mr. E. E. Nelson, Passenger Traffic Manager, Northern Pacific Railway, St. Paul, Minn.

The Canadian National Railways is offering an "all expense" trip from Chicago to Portland and, after the Portland Session, to Seattle, Vancouver, Skagway and West Taku Arm, thence back to Prince Rupert, Jasper Park, Edmonton, Saskatoon, Winnipeg, St. Paul and Chicago. Information concerning this proposed Alaskan tour may be secured through any office of the Canadian National Railways or from the General Passenger Agent, 108 West Adams Street, Chicago.

The Ohio State Medical Association is sponsoring a special train to the Portland Session for the accommodation of its members and friends. Information concerning this train may be secured from Mr. Don K. Martin, executive secretary, Ohio State Medical Association, 131 East State Street, Columbus, Ohio.

The Indiana State Medical Association has arranged for a special train to Portland for the accommodation of its members and friends. Information may be secured from Mr. Thomas A. Hendricks, executive secretary of the Indiana State Medical Association, 804 Hume Mansur Building, Indianapolis.

Round Trip Summer Vacation Fares to Portland

From—	To Portland and Return
Albany, N. Y.	$133.20
Atlanta, Ga.	117.55
Asheville, N. C.	120.15
Baltimore	130.45
Birmingham, Ala.	108.65
Boston (via B. & A.)	145.40
Boston (via B. & M.)	145.40
Boston (via New York)	145.40
Buffalo (via N. Y. C. or M. C.)	116.10
Buffalo (via G. T., Erie, N. Y. C. & St. L. or Wab.)	113.70
Charleston, S. C.	135.40
Chattanooga, Tenn.	109.70
Chicago	90.30
Cincinnati	101.35
Cleveland (via N. Y. C., Penn. or B. & O.)	105.65
Cleveland (via N. Y. C. & St. L.)	104.05
Columbus, Ohio	104.00
Des Moines, Iowa	81.55
Detroit	101.70
Fort Wayne, Ind.	94.53
Indianapolis	98.70
Jacksonville, Fla.	134.05
Kansas City, Mo.	75.60
Knoxville, Tenn.	112.65
Louisville, Ky.	97.75
Memphis, Tenn.	98.75
Milwaukee	90.30
Minneapolis	83.75
Mobile, Ala.	116.40
Montgomery, Ala.	114.05
Nashville, Tenn.	100.90
New Orleans	112.35
New York (via N. Y. C., B. & O., L. V. or Penn.)	138.32
New York (via D. L. & W. or Erie)	135.12
Norfolk, Va.	134.50
Omaha	75.60
Peoria, Ill.	89.25
Philadelphia	133.14
Pittsburgh	113.01
Portland, Maine (via Montreal)	146.80
Portland, Maine (via Boston and B. & A.)	153.24
Portland, Maine (via Boston and B. & M.)	153.24
Portland, Maine (via Worcester and New York)	152.68
Portland, Maine (via Boston and New York)	153.24
Rochester, N. Y.	120.07
St. Joseph, Mo.	75.60
St. Louis	85.60
St. Paul	83.75
Savannah, Ga.	133.50
Springfield, Mass.	138.32
Toledo, Ohio	99.48
Washington, D. C.	130.45

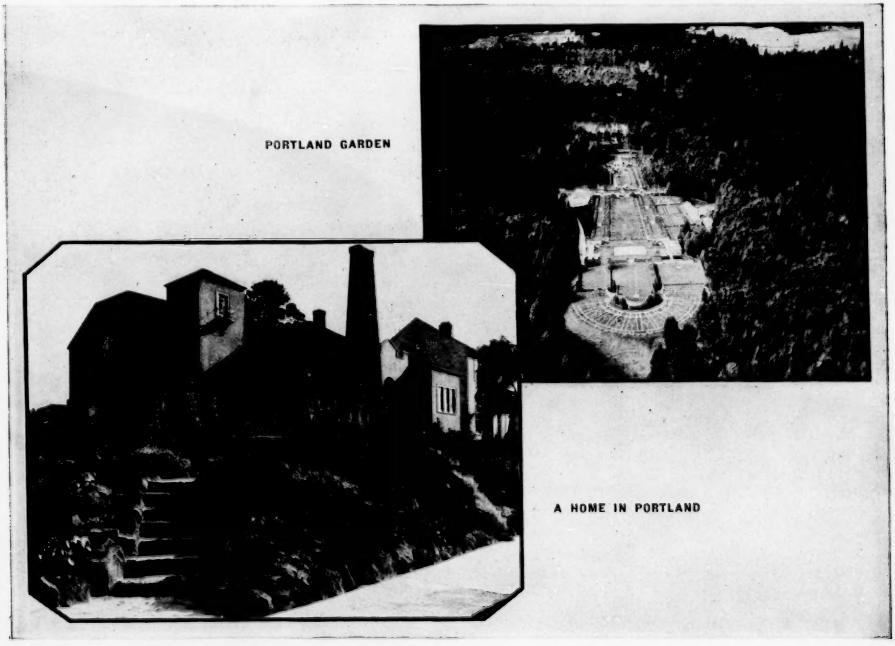
There will be a De Luxe Tour of Alaska following the annual session at Portland under the auspices of the Chicago Medical Society. A special train will leave Chicago at 11:30 p. m., July 3, and will go to Portland by way of the Illinois Central, Denver and Rio Grande Western and Union Pacific, arriving in Portland on the evening of July 7. On the evening of July 12 the party will leave Portland for Seattle, thence to Mount Baker National Park, and then will sail on the evening of July 15 from Vancouver through the Inside Passage to Ketchikan, Wrangell, Juneau and Skagway. From Skagway the party will go via White Pass to Carcross, where it will make a transfer to a steamship for a trip on Tagish Lake, returning to Skagway, where a ship will be boarded for Prince Rupert. July 22, the party will go to Jasper Park by way of the Canadian National Railways. After a day at Jasper Park the return trip will be made via Winnipeg and Duluth, with arrival in Chicago at 11:30 a. m., July 27. Further information may be secured from Dr. J. H. Hutton, secretary of the Chicago Medical Society, 185 North Wabash Avenue, Chicago.

The official itinerary of the Medical Society of the State of New York will be the New York Central Railroad to Chicago, the Burlington to St. Paul, and the Great Northern to Glacier National Park. The party will leave New York at 1 p. m., June 30, arriving at Glacier National Park at 7:30 p. m., July 3. Leaving Glacier National Park on the evening of July 6, the party will reach Portland, July 7. After the Portland Session, the party will go by way of the Union Pacific to Yellowstone Park, leaving Portland at 6 p. m., July 12, arriving at West Yellowstone at 7:30 a. m., July 14. Sunday, Monday, Tuesday and Wednesday, July 14, 15, 16 and 17, will be spent in the park. Salt Lake City will be visited on Thursday, July 18, and Denver will be the next place of call. Saturday, July 20, and Sunday, July 21, will be given over to a visit to the Rocky Mountain National Park. Leaving Denver on the evening of Sunday, July 21, arrival at New York will be on Wednesday afternoon, July 24. Further information may be secured from Dr. John A. Card, 215 Mill Street, Poughkeepsie, N. Y., or from Dr. Arthur W. Booth, 222 West Church Street, Elmira, N. Y.

The Massachusetts Medical Society is arranging for transportation for the accommodation of its fellows and friends who will attend the Portland Session. Information may be secured from the secretary of the Massachusetts Medical Society, Dr. W. L. Burrage, 182 Walnut Street, Brookline, Mass.

The Minnesota State Medical Association has arranged for a special train that will leave the Twin Cities on July 3. The Minnesota party will stop at Glacier National Park for two days and will arrive in Portland on Monday morning, July 8.

A special train for the benefit of golf enthusiasts who will attend the session will leave Chicago over the Chicago and Northwestern Railroad at 10 p. m., Saturday, June 29. Stops will be made at Omaha, Denver, Salt Lake City, Lake Tahoe, Del Monte, San Francisco and Medford. Games will be played on famous courses at each of these stops and the party will arrive at Portland at 7:30 a. m., July 7.



PORTLAND GARDEN

A HOME IN PORTLAND

After the Portland Session the party will leave Portland at 4:30 p. m., July 12, by the Great Northern Railway, stopping at Vancouver, Everett, Spokane, Glacier National Park, Fargo and Minneapolis, and disbanding at Chicago, Saturday morning, July 20. Two days will be spent at Glacier National Park.

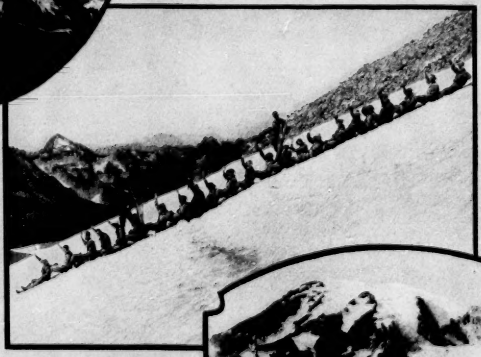
Complete information may be secured from Dr. John P. DeWitt, 112 Shorb Avenue, North West, Canton, Ohio, or from Mr. Hugh H. Gray, General Agent of the Southern Pacific Lines, 165 Broadway, New York.

Tours and Side Trips

The Local Committee of Arrangements at Portland is considering the advisability of arranging side trips from Portland for those who may be interested in mountain climbing and in visits to the primeval forests of the great Northwest and to many places of scenic beauty that are more or less easily

FISHING IN SALT CREEK, ORE., ALONG SOUTHERN PACIFIC

PARTY ON SKYLINE TRAIL, RAINIER NATIONAL PARK

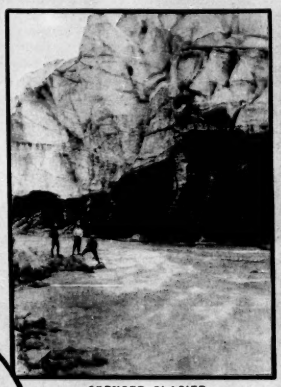


NATURE COASTING AT THE EDGE OF PARADISE GLACIER

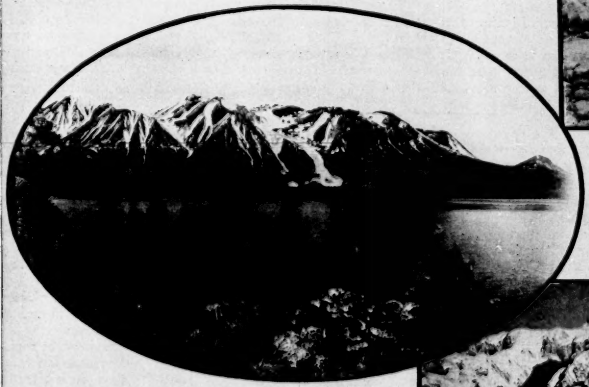
PARADISE INN, RAINIER NATIONAL PARK

CRATER LAKE AND WIZARD ISLAND

LAKE TUSTEMENA



SPENCER GLACIER



ATLIN MOUNTAIN, ATLIN, B. C.

MOUNT McKINLEY, ALASKA

REFLECTIONS ALONG ALASKA RAILROAD

BARTLETT GLACIER

approachable from Portland. If a sufficiently large party can be organized, it is proposed that arrangements shall be made for a climb up the sheer sides of beautiful Mount Hood. Another trip that has been suggested is to Crater Lake by horseback, down the Skyline Trail, which follows the crest of the Cascades for 250 miles through unbroken forests and gives opportunity for viewing some of the most striking scenic beauties. Shorter trips limited to a single day are also being considered, among them one around Mount Hood, one to Eagle Creek with a climb to the Devil's Punch Bowl, and a climb along Perdition Trail to Multnomah Falls.

All those interested in these trips should write at the earliest possible time to Dr. E. A. Sommer, Chairman of the Local Committee of Arrangements, Electric Building, Portland, Ore.

In addition to the usual local sightseeing trips in and about Portland, arrangements have been made for several side trips of unusual interest. Mountain climbers will have an opportunity to climb Mount Hood, and those who can stand the strenuousness of an eighteen-day trip on horseback may avail themselves of the pleasure of a trip down the Sky Line Trail. Several shorter trips have been planned, including one by speeder up a narrow gage railroad along the Clackamas River, in which the zealous angler may flick a dry fly in the Clackamas or in the Oak Grove River, said to be two of the best trout streams in the Northwest. There will be an automobile trip around Mount Hood—a stage tour of 175 miles around the base of Mount Hood—returning by the Columbia River Highway. Another trip will include a climb up the trail on Eagle Creek to the Devil's punch bowl or along Perdition Trail and down at Multnomah Falls. Those who are interested in sea fishing may take the trip to Tillamook by stage, from which point a deep sea boat will convey them far enough out on the Pacific to give them opportunity to try their luck with red snappers and ling cod. Some of these side trips are not at all strenuous, while others will require hiking boots and proper outing clothing. The necessary equipment for the Mount Hood Climb and the Sky Line Trail will include heavy full length woolen underwear, oiled shoes or boots with hobbed soles, and a heavy woolen shirt. Any outing suit or heavy business suit will serve, but two pairs of thin socks and at least one extra pair of heavy socks should be carried. An extra coat or sweater, two pairs of woolen gloves, dark glasses and plenty of cold cream should be included in the outfit. The trip along the Sky Line Trail will be strictly a mountain trip. While the weather is usually warm during the day, a storm is not unusual. For that reason clothing should be warm and one should have a rain proof garment of some sort. It is necessary to have a complete change of clothing for this trip, including a change of shoes. Riding boots or puttees should be worn. Those who take this trip should have sleeping bags provided with water-proofed covering. Fishing tackle, cameras and bathing suits will be in order. Dr. W. K. Livingston, chairman of the Outdoor Committee, 1206 Stevens Building, Portland, Ore., will be glad to provide information concerning the various side trips arranged for the entertainment of the Fellows of the Association who go to Portland.

Those interested in outdoor side-trips during the annual session may obtain a descriptive folder by addressing Dr. W. K. Livingston, Chairman of the Outdoor Committee, 1206 Stevens Building, Portland, Oregon. Additional details and pictures will be available at the recreation booth at the auditorium during the sessions.

REGISTRATION

The Bureau of Registration will be located in the Portland Auditorium, 330 Third Street. Members of the Committee on Registration of the Local Committee of Arrangements will be on hand to assist those who desire to register.

A branch postoffice in charge of government postoffice officials will be available for visitors, and an information bureau will be operated in connection with the Bureau of Registration.

Who May Register

Only Fellows, Affiliate, Associate and Honorary Fellows, and Invited Guests may register and take part in the work of the sections. Fellows of the Scientific Assembly are those who have, on the prescribed form, applied for Fellowship, subscribed to THE JOURNAL, and paid their Fellowship dues for the current year. The annual Fellowship dues provide a subscription to THE JOURNAL for one year. Fellowship cards are sent to all Fellows after payment of annual dues, and these cards should be presented at the registration window. Any who have not received cards for 1929 should secure them at once by writing to the American Medical Association, 535 North Dearborn Street, Chicago.

Members in Good Standing Eligible to Fellowship

Members in good standing in county medical societies are members of state associations and of the American Medical Association. All members in good standing are eligible for Fellowship in the Scientific Assembly, and may qualify as Fellows after reaching Portland; but it will be far better to qualify before leaving home in order that pocket cards may be secured and brought to Portland so that registration can be more easily and more promptly effected. Application forms may be had on request.

Subscribers to THE JOURNAL who have not received pocket cards for 1929 should write to the American Medical Association for application blanks and information as to further requirements.

Register Early

Fellows living in Portland, as well as all other Fellows who are in Portland on Monday and Tuesday, should register as early as possible. The names of those who register will appear i nthe *Daily Bulletin* the next day, and this will enable visiting physicians to find friends if they have registered.

Suggestions That Will Facilitate Registration

Fellows should fill out completely the spaces on both sections of the front of the *white* registration card, which will be found on the tables in front of the Registration Bureau.

Physicians who desire to qualify as Fellows should fill out completely the spaces on both sections of the front of the *blue* registration card, and sign the application on the back. These blue cards also will be found on the tables.

Entries on the registration cards should be written plainly, or printed, as the cards are given to the printer to use as "copy" for the *Daily Bulletin*.

Fellows who have their pocket cards with them can be registered with little or no delay. They should present the filled out *white* registration card, together with their pocket cards, at one of the windows marked "Registration by Pocket Card." There the clerk will compare the two cards, stamp the pocket card and return it, and supply the Fellow with a badge, a copy of the official program and other printed matter of interest to those attending the annual session.

As previously stated, it will assist in registering if those who desire to qualify as Fellows will file their applications and qualify as Fellows by writing directly to the American Medical Association, 535 North Dearborn Street, Chicago, so that their Fellowship may be entered not later than June 20. Any applications received later than June 20 will be given prompt attention, but the Fellowship pocket card may not reach the applicant in time so that he can use it in registering at the Portland Session.

As already stated, it will be possible for members of the organization to qualify as Fellows at Portland. In order to do this, applicants for Fellowship will be required to fill out both sections of the front of the *blue* registration card and to sign the formal application printed on the reverse side.

It is suggested that those who apply for Fellowship at Portland provide themselves, before leaving home, with certificates signed by the secretaries of their state associations, attesting that they are members in good standing in state and county branches of the organization. A state membership card for 1929 will be acceptable. The certificate or membership card should be presented along with the filled in *blue* registration card at the window in the registration booth marked "Applicants for Fellowship."

MEETING PLACES AND GENERAL HEADQUARTERS

HOUSE OF DELEGATES: Ballroom of the Multnomah Hotel, 269 Pine Street.

OPENING GENERAL MEETING: Ballroom, Masonic Temple, 249 West Park Street.

SECTIONS OF SCIENTIFIC ASSEMBLY

PRACTICE OF MEDICINE: Ballroom, Masonic Temple, 249 West Park Street.

SURGERY, GENERAL AND ABDOMINAL: Shrine Hall, Masonic Temple, 249 West Park Street.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY: Shrine Hall, Masonic Temple, 249 West Park Street.

OPHTHALMOLOGY: Commandery Room, Masonic Temple, 249 West Park Street.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY: Commandery Room, Masonic Temple, 249 West Park Street.

DISEASES OF CHILDREN: Ballroom, Masonic Temple, 249 West Park Street.

PHARMACOLOGY AND THERAPEUTICS: Doric Room, Masonic Temple, 249 West Park Street.

PATHOLOGY AND PHYSIOLOGY: Doric Room, Masonic Temple, 249 West Park Street.

NERVOUS AND MENTAL DISEASES: Ionic Room, Masonic Temple, 249 West Park Street.

DERMATOLOGY AND SYPHILOLOGY: Corinthian Room, Masonic Temple, 249 West Park Street.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH: Auditorium, 330 Third Street.

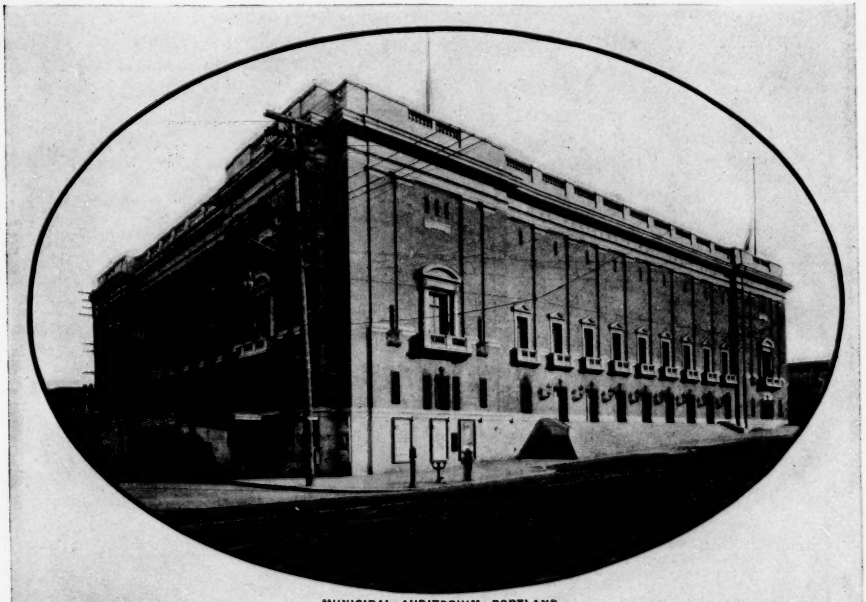
UROLOGY: Corinthian Room, Masonic Temple, 249 West Park Street.

ORTHOPEDIC SURGERY: Ionic Room, Masonic Temple, 249 West Park Street.

GASTRO-ENTEROLOGY AND PROCTOLOGY: Auditorium, 330 Third Street.

RADIOLOGY: Auditorium, 330 Third Street.

GENERAL HEADQUARTERS, SCIENTIFIC EXHIBIT, REGISTRATION BUREAU, TECHNICAL EXHIBIT, INFORMATION BUREAU AND BRANCH POSTOFFICE: Auditorium, 330 Third Street.



MUNICIPAL AUDITORIUM, PORTLAND

DIAGNOSTIC CLINICS

A series of diagnostic clinics, similar to those which were held at the Chicago, Atlantic City, Dallas, Washington and Minneapolis sessions, will be held during the Portland session on Monday, July 8.

The program as arranged at present is:

Urology, Henry G. Bugbee, New York; Diet in Disease, James S. McLester, Birmingham, Ala.; Pernicious Anemia and Secondary Anemias, William P. Murphy, Boston; Obstetrics, John O. Polak, Brooklyn; Tuberculosis, Gerald B. Webb, Colorado Springs, Colo.

CLINICAL LECTURES

At the Masonic Temple, Tuesday, July 9, clinical lectures similar to the lectures held at the Minneapolis session will be presented:

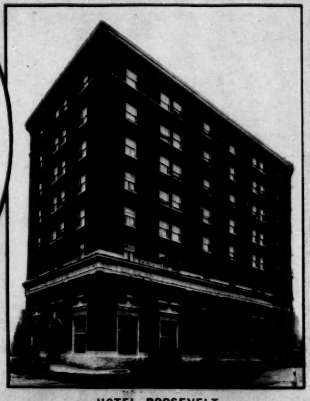
Ductless Glands, A. J. Carlson, Chicago; The Heart, James B. Herrick, Chicago; Surgical Side of Goiter, Frank H. Lahey, Boston; Present Treatment of Renal Stone, William C. Quinby, Boston.

The Canti film on The Behavior of Living Tissue in Vitro and the Effect of Radium on Cancer Cells will be shown at these lectures and at the diagnostic clinics.

BENSON HOTEL

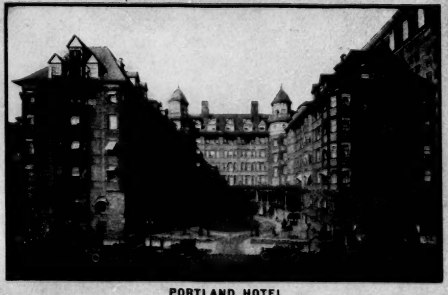
ELKS TEMPLE

MULTNOMAH HOTEL



HOTEL ROOSEVELT

CONGRESS HOTEL



PORTLAND HOTEL

PORTLAND HOTELS

The Local Committee of Arrangements for the Portland Session reports that requests for hotel reservations are being received from Fellows in all parts of the country, which indicates a widespread interest and a large prospective attendance at the session.

An experienced hotel man has been placed in charge of the hotel arrangements, and definite assignments are being made to the various hotels. A printed "Hotel Reservation" form is being used which indicates the name of the hotel and the type of accommodation reserved. One copy of this form is sent to the one requesting a reservation and another copy is sent to the hotel. The committee asks that those desiring reservations indicate the hotel of their choice, the type of accommodations desired, and, so that duplication may be avoided, the names of the persons who will occupy the rooms. *All requests for reservations should be addressed to Dr. E. A. Sommer, Electric Building, Portland, Oregon.*

The rates quoted in the following list of Portland hotels and apartment hotels are for one or two persons in each room, unless otherwise indicated.

Name	Without Bath	With Bath
Adler		$5.00
Angela	$3.00	5.00
Arthur		5.00
Bellevue	2.00–3.00	
Benson		6.00–10.00
Bridgeport	2.00	3.00
Byron	3.00	5.00
Campbell		5.00
Campbell Court		5.00–6.00
Campbell Hill	3.00	4.00
Caples	4.00	7.00
Carlton		6.00
Carlyle	3.00	4.00
Carroll		3.50
Chamberlain	2.00	3.00
Clifford	2.00	3.00
Clyde		5.00
Commodore		5.00–6.00
Congress		6.00–7.00
Conradine		4.00
Cornelius	3.00	5.00
Eaton		4.00
Gordon		5.00 *
Hamilton	2.00	3.00 *
Heathman		6.00
Hillcrest	3.00	4.00 *
Hoyt	3.00	6.00
Imperial	3.50	4.00–8.00
Lenox	3.00–4.00	5.00
Lorraine		4.00
Mallory		5.00–7.00
Montana		3.00
Morris	3.00	5.00
Multnomah	3.50	4.00–8.00
Navarre		$3.00–$6.00
Nortonia	3.00	5.00
Oregon	4.00	6.00–7.00
Palace		5.00 *
Perkins	3.00	5.00
Portland	3.50–4.00	5.50–7.00
Prince of Wales		6.00
Ritz		5.00
Roosevelt		6.00
Rosaria		5.00
Roseland	3.00	5.00
Rowland	3.00	4.00 *
Seward	3.00	4.00–5.00
St. Andrews		5.00
St. Francis	3.00	5.00
Sovereign		6.00–7.00
Treves	3.00	
Washington	3.00–4.00	5.00–6.00 *
Y. M. C. A.	1.50 Single 2.00 Double	

Portland Apartment Hotels

Admiral (2 room)	5.00
Cromwell (2 and 3 room)	5.00–10.00
Doricourt (2 and 3 room)	4.00– 6.00
Empress	5.00
Lafayette	4.00– 5.00
San Carlos	5.00–10.00
Wheelden Annex (3 room connecting bath)	6.00
Wheelden Annex	3.00

* Connecting bath.

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Charles E. Sears, Vice Chairman
Noble Wiley Jones, Vice Chairman
Richard B. Dillehunt, Vice Chairman
Richard Wellington, Secretary
C. J. McCusker, Treasurer
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J. Earl Else, Registration
Ferdinand H. Dammasch, Technical Exhibits
Robert L. Benson, Scientific Exhibit
Ernst A. Sommer, Entertainments and Reception to the President of the A. M. A.
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Marr Bisaillon, Information
Laurence Selling, Clinics
A. G. Bettman, Telephone and Telegraph
Mabel Akin, Women Physicians
Mrs. George F. Wilson, Ladies' Entertainments

GOLFING TOURNAMENT

The annual tournament of the American Medical Golfing Association will be held at Portland, July 8. There are eight private courses and ten fee courses at Portland. The usual splendid prizes will be offered in the tournament, and the annual meeting of the American Medical Golfing Association will be held on the evening of July 8. All Fellows of the American Medical Association are eligible to membership in the American Medical Golfing Association. Until June 15, membership blanks and entrance blanks for the tournament may be secured from Elizabeth Romel, Business Secretary, American Medical Golfing Association, 856 Hinman Avenue, Evanston, Ill. After June 15, address communications to the secretary of the local golf committee, Dr. Edward W. St. Pierre, Stevens Building, Portland, Ore.

ENTERTAINMENT

MONDAY, JULY 8

The annual tournament of the American Medical Golfing Association will be held in the morning at Waverley Country Club.

There will be an automobile trip up the Columbia River Highway with a stop for luncheon at Eagle Creek. Automobiles will leave the Multnomah Hotel at 9 a. m.

The Portland City and County Medical Society will be hosts at a dinner to be given for the members of the House of Delegates, officers of the American Medical Association and past presidents of the Oregon State Medical Society.

TUESDAY, JULY 9

There will be an automobile trip around the Mount Hood loop, with a stop for luncheon at the Columbia Gorge Hotel.

The Opening General Meeting of the Scientific Assembly will be held at 8:30 p. m. in the Ballroom of the Masonic Temple.

WEDNESDAY, JULY 10

There will be a trip up the Clackamas River, stopping at Camp 8 of the Portland Electric Power Company for luncheon.

At the Waverley Country Club, visiting ladies and members of the Woman's Auxiliary will have luncheon, followed by drives, receptions and teas.

There will be a banquet for the alumni of Rush Medical College (University of Chicago) at the Portland Hotel at 7 p. m. It will be informal; tickets, $2 per plate.

In the evening, arrangements are being made for alumni gatherings and dinners, to be followed by special entertainments.

THURSDAY, JULY 11

The Seventh Infantry Band of Vancouver Barracks will furnish music at a tea and reception at one of Portland's most beautiful homes.

A yacht club trip is planned for 6 p. m. through the courtesy of the Portland Yacht Club.

In the evening, in the Ballroom of the Masonic Temple, there will be a reception and ball in honor of the President of the American Medical Association.

The Alpha Omega Alpha banquet will be held at the Portland Hotel at 6 p. m. Informal, $2 per plate.

FRIDAY, JULY 12

From 11 a. m. until 2 p. m., at one of the Portland parks, a salmon barbecue luncheon will be served.

A trip along Perdition Trail is planned, the party leaving the Multnomah Hotel at 1 p. m. and returning at 6:30 p. m.

SATURDAY, JULY 13

The Portland physicians are planning an especially conducted trip up the Columbia River Highway for those guests who remain over Saturday.

There is also planned a trip to the Garibaldi Beaches for the week end for those who like deep sea fishing.

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KEY TO MAP OF PORTLAND

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A WELCOME AWAITS YOU IN PORTLAND

Portland is looking forward to the annual session of the American Medical Association with enthusiasm. Efforts are being made to make every one's visit pleasant and well worth remembering.

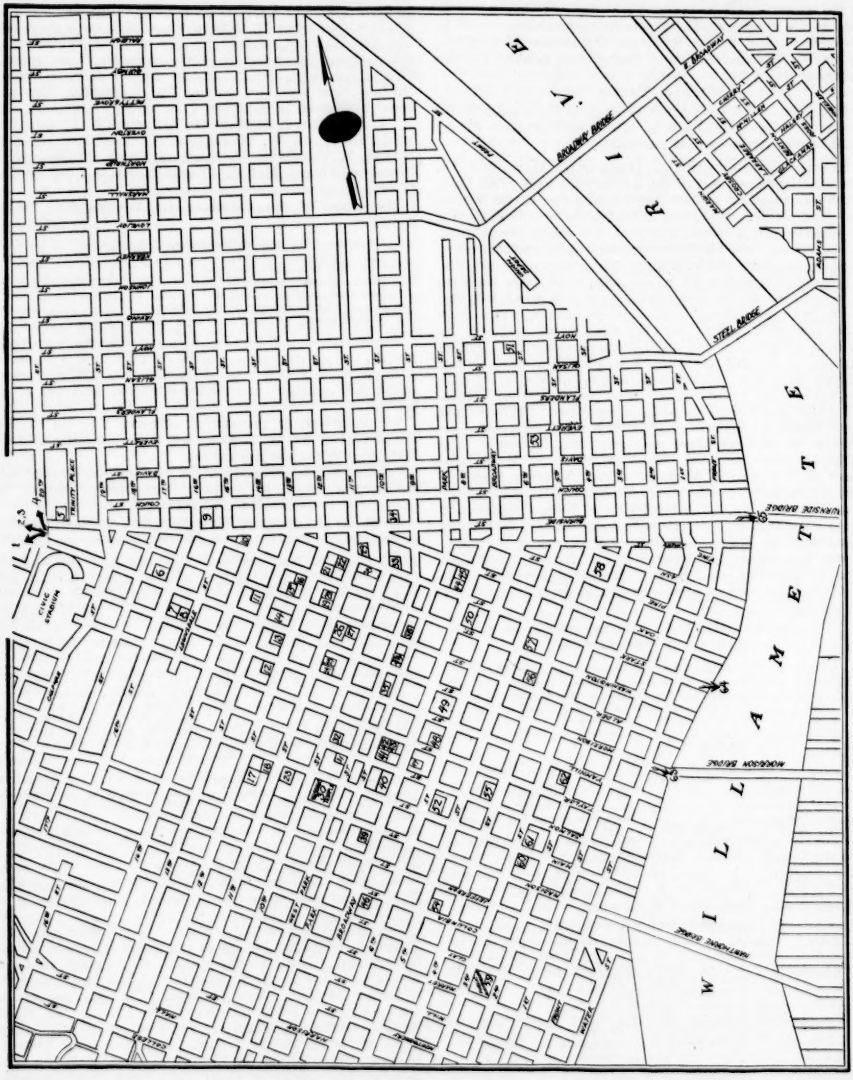
The auditorium, which will serve as general headquarters for the session, is readily accessible from all parts of the city. Facilities for immediate local transportation will be available at the railroad station and bus depots. Those who drive to the convention will find the highways plainly marked both in and out of the city. Garage space and service are available in both the business and the residential districts, and provisions are being made for all who prefer to come in cars.

In the booth at the auditorium, which will be devoted to recreational trips, pictures will be displayed and complete information given about all official trips. The trips decided on should be signed for at the earliest possible date, so that every one can be taken care of with comfort and convenience. As far as possible this booth will also furnish information about fishing conditions, recreational trips and activities in Washington and California, and in other parts of Oregon not included in the regular outing program.

An invitation is especially extended to those who may wish to come early to spend their vacations and then attend the session. The exhibits and other features of the session will not be ready until Monday morning, July 8, but there is always plenty to see and do in and around Portland—the recreational center of the great Northwest. The scenic attractions are as alluring as any west of the Rockies.

This issue of THE JOURNAL supplies complete information pertaining to the annual session. The accompanying list is a key to hotels and meeting places within the city that will demand attention during the week. It is suggested that readers study this material carefully in order to employ their time to the best advantage while in Portland.

MAP OF PORTLAND



The bottom of the map is on the right. The key appears on page 1946.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will be located in two large halls adjacent to the main auditorium (main floor), on the stage and in the ticket lobby. It will be, therefore, in the shape of a hollow square; in the center of this hollow square, and also in the basement, will be housed the Technical Exhibits. In the case of all scientific exhibits, personal demonstrations will be given as required by the Rules and Regulations of the Committee on Scientific Exhibit. Among the exhibits are the following:

SPECIAL EXHIBITS

At the request of the Committee on Scientific Exhibit of the Board of Trustees, there will be three special exhibits. (These exhibits will not be open to awards.)

EXHIBIT OF BIOCHEMICAL DIAGNOSTIC METHODS: On recommendation and vote of the Advisory Committee, the Committee on Scientific Exhibit has again authorized an exhibit and demonstration of various clinical laboratory methods of a biochemical nature which are used for diagnostic purposes. Owing to the rather broad scope which these methods cover, the demonstrations will be given in three separate groups. The first group will include the routine tests which every physician may undertake in his own office; the second group will deal chiefly with the chemical blood determinations which have come into wide clinical use; the third group will take up methods primarily of special or research character. Demonstrations of the different methods will be given on a definite schedule each day. In addition, informal discussions of such topics as "renal function tests," "liver function tests," "chemical blood observations in urologic conditions," "diabetes and sugar tolerance," "gastric analysis," and the "taking and preservation of chemical blood specimens" will be given. The exhibit is under the active charge of Dr. V. C. Myers, professor of biochemistry, Western Reserve University School of Medicine, with the collaboration of Drs. O. H. Gaebler, Henry Ford Hospital; R. S. Hubbard, Clifton Springs Sanitarium; J. A. Killian, New York Post-Graduate Medical School and Hospital; E. R. Norris, University of Washington; J. H. Roe, George Washington University School of Medicine, and J. E. Winter, University of Louisville School of Medicine. The schedule of the various demonstrations of the three groups is as follows:

GROUP I.—SIMPLE CLINICAL METHODS

SCHEDULE OF DEMONSTRATIONS

Daily

9:15 a. m.	The Routine Chemical Examination of the Urine.
10:15 a. m.	Estimation of Sugar and Protein in Urine.
11:15 a. m.	Tests for the Acetone Bodies and Indican.
1:15 p. m.	The Phenolsulphonphthalein Renal Function Test.
2:15 p. m.	Technic of Occult Blood Tests.
3:15 p. m.	Methods of Analysis Employed for Gastric and Duodenal Contents.

GROUP II.—SCHEDULE OF CHEMICAL BLOOD DEMONSTRATIONS

	Tuesday Thursday	Wednesday Friday
9 a. m.	Hemoglobin.	Icterus Index and van den Bergh Reaction.
10 a. m.	Blood Sugar (Folin-Wu and New Benedict).	Blood Sugar (New Folin Micro).
11 a. m.	Urea N.	Nonprotein N.
12 M.	Creatinine.	Uric Acid.
2 p. m.	CO_2 Capacity.	Calcium and Magnesium.
3 p. m.	Cholesterol.	Inorganic Phosphorus.
4 p. m.	Salivary Urea.	Chlorides.

GROUP III.—DEMONSTRATIONS OF SPECIAL METHODS

	Tuesday Thursday	Wednesday Friday
10:30 a. m.	Estimation of Urine and Blood PH with aid of Bicolorimeter. Dr. Myers.	Bile Salts and Urobilin. Dr. Killian.
11:30 a. m.	Blood Sulphates. Dr. Hubbard.	The Falling Drop Method for Determining Specific Gravity (Barbour and Hamilton). Dr. Winter.
2:30 p. m.	Van Slyke's New Manometeric Gas Analysis Apparatus. Estimation of Oxygen. Dr. Killian and Dr. Gaebler.	New Method for Blood Creatinine. Dr. Gaebler.
3:30 p. m.	Lactic Acid. Dr. Killian.	Colorimetric Estimation of Calcium. Dr. Roe.

EXHIBIT ON FRACTURES: The splendid response at Minneapolis to the exhibit of the Cooperative Committee on Fractures, appointed by the Section on Surgery, General and Abdominal, and the Section on Orthopedic Surgery, was so gratifying that the Committee on Scientific Exhibit asked the Fracture Committee to continue the exhibit for a third time. The Cooperative Committee on Fractures kindly acceded to this request. The personnel of the committee is the same as that of last year: Drs. Nathaniel Allison, Boston; William Darrach, New York, and Kellogg Speed, Chicago. This committee announces, as members of its advisory committee, Drs. W. S. Baer, Joseph A. Blake, F. J. Cotton, W. L. Estes, Sr., M. L. Harris, G. W. Hawley, M. S. Henderson, James M. Hitzrot, W. L. Keller, U. S. Army, Frank R. Ober, D. B. Phemister, Emmet Rixford, Charles L. Scudder and William O'Neill Sherman.

The plans of the committee for the Portland Session comprise:

1. Fractures of the shaft of the femur.
   (*a*) Emergency treatment.
   (*b*) Bed or hospital treatment.
2. Fractures of the ankle.
3. Fractures of the lower end of the radius.
4. Supracondylar fractures of the humerus.
5. Making, storing and use of plaster-of-paris bandages.

Demonstrations will be given in separate booths with human models, and demonstrators will be on duty from 9 a. m. till noon and from 2 to 5 p. m. Demonstrations will run concurrently, and criticisms and questions will be answered at the booths.

The committee is gratified to announce that the Medical Department of the U. S. Army will again cooperate as it has been doing in the last two exhibits.

The Section on Radiology in its exhibit is cooperating with the fracture exhibit by means of film displays covering the fractures to be discussed in this year's exhibit.

Below are the names of those who have consented to demonstrate in the booths of the fracture exhibit:

Adams, Bertram S., Hibbing, Minn.
Akin, Otis F., Portland, Ore.
Allard, Louis W., Billings, Mont.
Allen, Arthur W., Boston.
Anderson, Roger S., Seattle.

Barnard, Harold D., Los Angeles.
Barry, George L., San Jose, Calif.
Bendixen, Peter A., Davenport Iowa.

Callander, Cyrus N., Fargo, N. D.
Callander, C. Latimer, San Francisco.
Conwell, Hugh E., Fairfield, Ala.

Derauf, B. I., St. Paul.
de Tarnowsky, George, Chicago.
Dickson, James A., Cleveland.
Diveley, Rexford L., Kansas City, Mo.
Durman, Donald C., Saginaw, Mich.

Eikenbary, Charles F., Seattle.
Eisenberg, P. J., Milwaukee.
Eliason, Eldridge L., Philadelphia.

Francisco, Clarence B., Kansas City, Mo.

Galbraith, John H., Altoona, Pa.
Giessler, Paul W., Minneapolis.
Greer, Joseph M., Phoenix, Ariz.
Haig, Thomas R., Sacramento, Calif.

Judy, John A., Dayton, Ohio.

Kennedy, Roderick D., Globe, Ariz.
Kreuscher, Philip H., Chicago.
Kuhn, Charles F., Detroit.

Langworthy, Mitchell, Spokane, Wash.

Martin, James W., Omaha.
McClure, Charles R., Portland, Ore.

Palmer, E. Payne, Phoenix, Ariz.
Potts, W. J., Oak Park, Ill.
Reid, Wells C., Goodrich, Mich.
Richards, Paul S., Utah.
Ritter, Robert O., Chicago.

Scott, G. D., Sullivan, Ind.
Smith, L. D., Milwaukee.

Thompson, V. P., Los Angeles.

Ulmer, D. R., Terre Haute, Ind.

Van Dalsam, S. B., San Jose, Calif.
Venable, Charles S., San Antonio, Texas.

Vyn, Jay D., Grand Rapids, Mich.
Walker, R. H., Charleston, W. Va.
Watkins, I. R., Aberdeen, Wash.
Webb, R. C., Minneapolis.
Willis, T. A., Cleveland.
Wolcott, W. E., Des Moines, Iowa
Young, E. L., Jr., Boston.

EXHIBIT ON MORBID ANATOMY: The Exhibit on Fresh Pathology, which has become an established feature in connection with the annual Scientific Exhibit, will be under the direction of Dr. Frank R. Menne, professor of pathology, University of Oregon Medical School, Portland. The other members of the Committee on Fresh Pathology are as follows: Dr. H. H. Foskett, resident pathologist at the Emanuel Hospital, Portland; Dr. W. C. Hunter, resident pathologist at St. Vincent's Hospital, Portland, and Dr. Charles Manlove, resident pathologist at Good Samaritan Hospital, Portland. This committee will be assisted by Dr. Karl H. Martzloff, instructor in surgical pathology at the University of Oregon Medical School; Dr. William M. Wilson, instructor in gynecologic pathology at the University of Oregon Medical School; Dr. Alfred L. Balle of the Seattle City Hospital, Seattle; Dr. Frederick

Epplen, Seattle; Dr. P. A. Scott, pathologist, Tacoma General Hospital of Washington, Tacoma; Dr. Bennett T. Simms, professor of veterinary medicine at the Oregon State College, and Dr. E. E. Chase, chief meat inspector of the city of Portland. Dr. Simms and Dr. Chase will furnish an exhibit of pathologic tissues from various animals. Interesting surgical and necropsy specimens will be demonstrated. All the members of the committee will take part in the demonstrations and discussions. All the facilities of the department of pathology and the corresponding departments of affiliated hospitals (Multnomah County and Doernbecher Memorial Hospital) will also be available for this exhibit.

PATHOLOGIC AND LABORATORY

ARTHUR J. BEDELL, Albany, N. Y.: Photographic demonstration of blood vessels of retina and choroid. Exhibit of pictures portraying the blood vessel changes as seen with the ophthalmoscope, including embolism, thrombosis, arteriosclerosis, nephritis, hypertension, retinitis pigmentosa and syphilitic choroiditis.

JOHN O. BOWER and JEFFERSON H. CLARK, Temple University Medical School, Philadelphia: Use of skin prints in diagnosis of pregnancy and benign and malignant lesions of the breast. Exhibit of prints of breasts showing normal breast at the various ages; changes of the areola, tubercules of Montgomery, etc., during the early weeks of pregnancy; changes observed in benign, precancerous and cancerous lesions.

C. LATIMER CALLANDER, M. W. DEBENHAM and A. L. MOLLATH, Department of Surgery, University of California Medical School, San Francisco: Intra vitam arterial injection of iodized oil in health and disease. Exhibit of roentgenograms of living extremities after injection of iodized oil in varying amounts into the common and superficial femoral arteries. These injections, opaque to the x-rays, were made with a view toward better diagnosis of the sufficiency of arterial supply in extremities affected by circulatory disturbances.

EBEN J. CAREY, Marquette University School of Medicine, Milwaukee: Experimental biophysics of normal and abnormal bone growth. Exhibit demonstrating the etiology of rickets, achondroplasia and myositis ossificans, by means of plastine plates, photomicrographs and microscopic slides; there will be shown experimental evidence of the influence of the musculature on the direction of normal and abnormal bone growth; by localized muscular excisions at the knee joint, pectoralis major of the chest and temporalis of the skull in growing puppies; an amyotonic decompression of the skeleton is produced comparable to the rachitis—epiphyses, rosary and parietal bosses of the skull. Experimental evidence of myogenic dwarfism (achondroplasia) by extensive muscle work of puppies in a motor driven treadmill. Mounted dogs demonstrated as experimental results.

RICHARD B. CATTELL and SHIELDS WARREN, Lahey Clinic, Boston: Pathology of thyroid gland. Exhibit of specimens of the various pathologic states of the thyroid gland will be shown, including simple colloid, discrete adenomas, endemic goiter, exophthalmic goiter and malignant tumors. Corresponding microscopic structures will be shown to those interested by means of mounted photomicrographs and actual sections.

W. T. CUMMINS, Southern Pacific General Hospital, San Francisco; JOSEPH K. SMITH, Kern General Hospital, Bakersfield, and C. H. HALLIDAY, Baltimore: Coccidioidal granuloma. Exhibit of human and experimental gross tissue in jars; microscopic demonstration of "organisms" in pus, fixed tissue and cultures; photographs of patients; various culture mediums showing growth of organisms.

J. EARL ELSE, Department of Surgery, University of Oregon Medical School, Portland, Ore.: Goiter. Exhibit showing: (1) various types of goiter seen in the Northwestern states; (2) congenital and anatomic anomalies of the thyroid gland; (3) influence of iodine on thyroid regeneration as shown in an experimental study; (4) comparison of pathology of recurrent goiters with primary goiter.

A. V. HARDY, University of Iowa, State Hygienic Laboratories, Iowa City: Undulant fever. Exhibit of five aspects: (1) bacteriologic, demonstrating strains, carbon dioxide requirement, etc.; (2) pathologic, guinea-pig specimens, larger animal specimens; (3) laboratory diagnosis; (4) epidemiologic aspect, distribution in the United States and particularly in Iowa; (5) clinical aspects. (This will illustrate in part paper by W. L. BIERRING.)

FRANK W. HARTMAN, Henry Ford Hospital, Detroit: Renal overstrain with intact kidneys. Exhibit of experimental study using a new method of production. Exhibit will include pathologic specimens, charts, photographs and photomicrographs showing that chronic retention of substances normally excreted in the urine have been produced by anastomosis of the fundus of the urinary bladder with the small intestine in such a way as to prevent fecal contamination of the bladder. Hypertrophy and later degeneration of the kidney is produced. Results of sixty such experiments will be presented.

OSWALD S. LOWSLEY, James Buchanan Brady Foundation for Urology, New York Hospital, New York: Tuberculosis and other lesions of the urinary organs. Exhibit of prints of pyelograms, specimens and pictures of lesions of urinary organs.

JOHN OLIVER MCREYNOLDS, St. Paul's Hospital, Dallas, Texas: Crystalline lens system in man and the lower animals. Exhibit consisting of mounted specimens for examination macroscopically and with the wide feld binocular microscope. It comprises several hundred human cataractous crystalline lenses removed in the living subject for restoration of vision. The exhibit also includes mounted specimens of the crystalline lens system demonstrating the relation of the crystalline lens to the neighboring structures concerned in accommodation, with especial reference to the ligaments of the lens. These specimens are designed to bring out the number, character and direction of the various fibers constituting the compound ligaments of the lens, illustrating their attachment to the capsule of the lens, to the ciliary processes and the intervening spaces between the processes and the anterior extension of the ora serrata.

MASON CLINIC GROUP, Virginia Mason Hospital, Seattle: J. TATE MASON: Late results of the surgical treatment of peptic ulcer. A new abdominal incision. JOHN M. BLACKFORD: Late results of the medical treatment of peptic ulcer. A clinical study of cancer of the stomach. A statistical study of hypertension. G. A. DOWLING: A statistical study of gallbladder disease. A statistical study of amebic colitis. LESTER J. PALMER: A follow-up study of diabetes. P. A. ROHRER: A statistical study of tuberculosis of the kidney. A statistical study of a large number of cystoscopies and prostatectomies. M. F. DWYER: An analysis of gastro-intestinal studies. J. T. DOWLING: Complications following tonsillectomy.

MAYO CLINIC and MAYO FOUNDATION GROUP, Rochester, Minn.: B. T. HORTON and G. E. BROWN: A study of diseases affecting the vessels of the extremities. Clinical, physiologic and pathologic studies of Raynaud's disease, thromboangiitis obliterans and arteriosclerotic disease are illustrated by charts, wax models and roentgenograms of mercury-injected arterial trees. Methods are shown for studying the range of vasomotor behavior in peripheral vascular disease and their application in the selection of cases for dorsal and lumbar sympathetic ganglionectomy. N. W. BARKER: The pathologic anatomy of the suprarenals in Addison's disease. Exhibit of mounted specimens and photomicrographs of histologic sections of suprarenal glands found in cases of Addison's disease, with normals for comparison. N. W. BARKER and E. G. BANNICK: Types of diffuse renal lesions. A study of clinical data given in brief abstracts, with mounted kidneys and photomicrographs of the renal cortex to illustrate various types of nephrosis, glomerulonephritis and nephrosclerosis. J. A. STEWARD: The blood supply of the colon. A study of the origin and course of the main vessels, formation and position of the marginal artery and the course of the terminal arteries. Exhibited by charts and celluloid casts. M. B. WHITTEN: A study of the coronary circulation. Exhibit of celluloid corrosion preparations demonstrating the cardiac cavities and the blood supply to the heart. CHARLES SHEARD and A. H. SANFORD: A photoelectric hemoglobinometer. Demonstration of the working of

a new method of determining the percentage of hemoglobin in the blood, by means of a photo-electric hemoglobinometer.

PAUL A. O'LEARY: For description see SECTION ON DERMATOLOGY AND SYPHILOLOGY.

C. G. SUTHERLAND: For description see SECTION ON RADIOLOGY.

D. SCHUYLER PULFORD, Woodland Clinic, Woodland, Calif.: Coccidioidal granuloma. Exhibit of gross pathologic specimens from necropsies; drawings of necropsy observations and camera lucida drawings and microphotographs of tissue picture; also exhibit of culture tubes demonstrating growths of different mediums; roentgenograms taken at different stages of treatment.

TORALD SOLLMANN, Department of Pharmacology, Western Reserve University School of Medicine, Cleveland: Color photography. Lantern slides illustrating the use of color photography in the recording of experimental and pathologic objects and of colored illustrations.

CLIFFORD SWEET, RICHARD G. WATSON and HENRY E. STAFFORD, Oakland, Calif.: Children's dentistry. Exhibit of (1) children's teeth, showing desirable and undesirable dental repairs; (2) teeth with filled root canals showing normal root erosion by the oncoming permanent teeth; (3) roentgenograms illustrating problems of children's dentistry and their solution; (4) models illustrating dental problems such as malocclusion.

GEORGE W. SWIFT, Neuro-Surgical Clinic, Seattle: Choked disk. Mechanical factors in its development. Exhibit of brain tumors; drawings to illustrate and legends containing a complete outline of cases and identification of tumors; also diagrammatic drawings illustrating the effect on the venous channels of pressure by tumors situated in the various parts of the brain.

BENJAMIN T. TERRY, Rochester, Minn.: Rapid preparation of tissue for microscopic examination. Exhibit of the new, easy, simple, rapid method reported at the exhibit last year; including improvements in technic and results that have been made within the last year. Opportunity will be afforded those interested to acquire the technic by doing it under personal supervision.

WALLACE I. TERRY, R. J. MILLZNER and H. H. SEARLS, University of California Medical School, San Francisco: Thyroid and parathyroid glands. Exhibit of (1) gross pathology of goiter as shown by selected specimens mounted on plate glass under large watch glasses; (2) microscopic pathology of goiter as shown by transilluminated photomicrographs; (3) parathyroid specimens, gross and microscopic, as above; (4) preservation of parathyroids in goiter surgery illustrated by drawings and transilluminated plates.

WILLIAM BENBOW THOMPSON, Los Angeles: Analysis of cesarean sections. Exhibit of tabular charts.

PHILEMON E. TRUESDALE, the Truesdale Clinic, Fall River, Mass.: Hernia of diaphragm with experimental demonstrations of mechanism of transposition of abdominal viscera following rupture. Exhibit of roentgenograms and charts illustrating various types of hernia of the diaphragm. Motion pictures demonstrating the displacement of thoracic and abdominal organs following rupture of the diaphragm.

RAYMOND E. WATKINS, University of Oregon Medical School, Portland, Ore.: Primary carcinoma of fallopian tubes and chorio-epithelioma of the uterus. Exhibit of gross specimens and microscopic slides of chorio-epithelioma of uterus following hydatidiform mole; also charts and slides showing primary papillary carcinoma of fallopian tubes.

WILLIAM WESTON and ROE E. REMINGTON, South Carolina Food Research Commission, Columbia, S. C.: Endemic goiter. Vegetable food as a source of iodine. Exhibit of maps and charts showing: (*a*) the distribution of goiter in the United States; (*b*) analyses showing the iodine content of vegetable foods from widely separated areas in the United States; (*c*) the amounts of some of these foods necessary to maintain iodine equilibrium in men.

SURGICAL AND MEDICAL EXHIBITS

A. G. BETTMAN, Portland, Ore.: Plastic surgery. Exhibit of wax and plaster casts of conditions amenable to plastic surgery; wax models of bone, cartilage and soft tissue defects of the nose, eyelids, ears and other parts of the face, both before and after correction; steps in the transference of a tube graft will be shown in a series of wax models; photographs supplement the models.

G. A. HENDON, Louisville, Ky.: Treatment of fractures by the bone key method. Exhibit of method of treating fractures without external immobilization. The exhibit will consist of reproductions of photographs and roentgenograms.

CHARLES D. LOCKWOOD and W. F. MANUEL, Pasadena, Calif.: Thoracic surgery. Exhibit of a series of roentgenograms and photographs illustrating pathologic conditions of the lungs and pleurae, requiring surgical treatment.

UNITED STATES VETERANS' BUREAU, Medical Research Subdivision, Washington, D. C.: PHILIP B. MATZ: Artificial pneumothorax and other surgical procedures in the treatment of pulmonary tuberculosis. Exhibit consisting of statistical data compiled on the various phases of surgical treatment of pulmonary tuberculosis, the problems and difficulties encountered, and the results of these therapeutic regimens.

UNIVERSITY OF OREGON GROUP

WILLIAM F. ALLEN, University of Oregon Medical School, Portland: Effect on respiration, blood pressure and pulse of various vapors. Effect of repeated traumatizations of the central stump of the hypoglossal nerve on degeneration and regeneration of the fibers and cells. Exhibit illustrating: 1. The effect on respiration, blood pressure and the carotid pulse of various inhaled and insufflated vapors when stimulating one cranial nerve and various combinations of cranial nerves. Tracings showing (*a*) branches of the trigeminus affected by these stimulants; (*b*) vagus and vagotomy experiments; (*c*) olfactory and trigeminals stimulated. 2. Effect of various inhaled vapors on respiration and blood pressure in anesthetized, unanesthetized, sleeping and anosmic subjects, as shown by tracings. 3. Microscopic demonstrations and drawings of the effect of repeated traumatizations of the central stump of the hypoglossal nerve on degeneration and regeneration of the fibers and cells.

J. EARL ELSE: For description see under PATHOLOGIC AND LABORATORY EXHIBITS.

HOWARD D. HASKINS and EDWIN E. OSGOOD, University of Oregon Medical School, Portland: Uniform system of hematologic methods. Exhibit of blood methods, using oxalated venous blood; cell and platelet counts, smears for differential counts, cell volume, sedimentation rate, hemoglobin estimations (Haskins-Sahli method and Osgood-Haskins method), alkali reserve titration method, and plasma icteric index estimation; also simplified calculation of color, volume and saturation indexes; Bence-Jones protein tests.

N. W. JONES, B. I. PHILLIPS and OLOF LARSELL, University of Oregon Medical School, Portland: Treatment of anemia both experimental and human with nuclear extractives. Exhibit of charts with data and curves of response to treatment with nuclear extracts.

OLOF LARSELL and RALPH A. FENTON, University of Oregon Medical School, Portland: Cutaneous branch of facial nerve in relation to mastoid region. Exhibit of microscopic slides of the human embryo demonstrating the ramus cutaneous facialis and its connections.

C. H. MANLOVE, Good Samaritan Hospital and the University of Oregon Medical School, Portland: Mounted pathologic specimens. Exhibit of surgical and necropsy specimens demonstrating interesting pathologic lesions. A complete description of the watch crystal color contrast method will be presented in an attractive form.

FRANK R. MENNE, University of Oregon Medical School, Portland: Pathology of thyroid gland. Exhibit of (1) demonstration of circulation; (2) pathologic anatomy in hyperthy-

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roidism; (3) influence of iodine in therapy of hyperthyroidism; (4) comparative anatomy.

C. ULYSSES MOORE, Nutritional Research Laboratory, University of Oregon Medical School, Portland: Vitamin studies: A, B, D, E, F and G. Exhibit illustrating relation of vitamin B to intracranial hemorrhage and beriberi neonatorum. Photographs, graphs, roentgenograms, statistical data, mounted slides and laboratory animals; clinical and experimental results.

C. H. THIENES and A. J. HOCKETT, University of Oregon Medical School, Portland: Effect of postpituitary extract on the absorption of drugs from the gastro-intestinal tract. Exhibit of photographs and charts illustrating the effect of orally administered drugs, such as morphine and cannabis, as influenced by the subcutaneous injection of postpituitary extract; charts showing blood sugar curves, curves of salivary and urinary excretion of iodide, and phenolsulphonphthalein; tables illustrating gastro-intestinal residues of dextrose (*d*-glucose) and of iodide, following oral administration of the respective substances and the influence of postpituitary extract on them.

RAYMOND E. WATKINS: For description see under PATHOLOGIC AND LABORATORY EXHIBITS.

SECTION EXHIBITS

[This year four of the scientific sections have sponsored group exhibits in the Scientific Exhibit. The individuals participating in these exhibits are listed under the descriptions of the respective sections.]

SECTION ON DERMATOLOGY AND SYPHILOLOGY

The exhibit under the auspices of the Section on Dermatology and Syphilology will cover in part the subject of the relation of dermatology to systemic conditions. Incidentally, the section is particularly fortunate this year in that practically every paper to be read before the section is illustrated in the section exhibit of the Scientific Exhibit. The committee in charge of the section exhibit is composed of C. W. Finnerud, Chicago; John H. Labadie, Portland; H. E. Michelson, Minneapolis, and F. D. Weidman, chairman, Philadelphia.

S. W. BECKER, Department of Medicine, University of Chicago, Chicago: Cutaneous melanoma. Exhibit of colored drawings of microscopic sections of normally pigmented skin and mucosa, of abnormally pigmented skin and mucosa, and of benign and malignant melanoma; also some photographs of lesions and graphic charts depicting present knowledge regarding the chemistry of melanin. Many of the drawings are of sections treated by special methods of demonstration of melanoblasts.

S. W. BECKER and A. E. KOEHLER, Department of Medicine, University of Chicago, Chicago: Dermatoses accompanied by signs and symptoms of suprarenal insufficiency. Therapy by oral administration of cortical suprarenal substance. Exhibit of abstracts of histories and charts showing graphically: (1) response of basal metabolic rate; (2) response of blood pressure; (3) response of cutaneous signs and symptoms.

H. N. COLE, JOHN RAUSCHKOLB, NORA SCHREIBER and TORALD SOLLMANN, Western Reserve University School of Medicine, Cleveland: Mercury ointments: Their absorption in the treatment of syphilis. Exhibit of serial charts illustrating relative absorption of mercury ointments of different strengths and put up in different bases, their absorption being judged from excretion studies of urine and feces.

JOSEPH J. ELLER and N. P. ANDERSON, New York: Cancer supervention in skin diseases. Exhibit of photographs and photomicrographs of over twenty different skin conditions which, at times, are forerunners of cancer. These will be grouped according to the likelihood of malignancy and charted.

HOWARD FOX, University and Bellevue Hospital Medical College, New York: Cutaneous lesions of yaws as observed in Haiti. Exhibit of photographs of cases of yaws (frambesia tropica) recently made at various rural clinics in Haiti. Cases of infants, children and adults; primary, secondary and tertiary manifestations.

H. P. JACOBSON, Department of Dermatology, Los Angeles General Hospital, Los Angeles: Coccidioidal granuloma—clinical and experimental observations. Exhibit of guinea-pigs experimentally infected with coccidioides and preserved in jar; infected tissue microscopic slides; culture, solid and bouillon broth of *Coccidioides immitis*. Photographs of lesions, roentgenograms, photomicrographic prints of *Coccidioides immitis* and histopathology of lesions produced by the organism.

C. F. LEHMAN, San Antonio, Texas: Acute vesicular eruptions of the hands and feet. Exhibit of photographs of vesicular eruptions of the hands and feet showing cases of: (1) epidermophytosis; (2) occupational and sensitization dermatitis; (3) so-called pompholyx, in which dysfunctions of the body closely parallels the acute outbreak.

JOHN B. LUDY, Pennsylvania Hospital, Philadelphia: Cutaneous neuroma. Exhibit of histologic sections and photogrophs of a patient originally regarded as presenting papulonecrotic tuberculid; sections of neuromatous hyperplasia in the lesions; the rôle of tuberculosis in inducing the hyperplasia.

L. K. MCCAFFERTY and G. F. MACHACEK, Vanderbilt Clinic, College of Physicians and Surgeons, Columbia University, New York: Lymphoblastoma. Exhibit of histologic sections on mycosis fungoides, leukemia, Hodgkin's disease and lymphosarcoma.

J. C. MICHAEL, Houston, Texas: Discrete keratoderma of the dorsum and lateral surfaces of the hands. Exhibit of photographs and drawings of clinical and pathologic material.

PAUL A. O'LEARY and HAMILTON MONTGOMERY, Mayo Clinic, Rochester, Minn.: Acanthosis nigricans. Exhibit of photographs showing clinical and histopathologic material in addition to case reports calling attention to the types of acanthosis nigricans and the relation to malignant conditions of the abdomen.

PAUL F. STOOKEY, Kansas City, Mo.: Photographs of the primary lesions of syphilis on the genitalia of women. Exhibit of a collection of photographs showing the primary lesion of syphilis on the labia and on the cervix. Additional photographs will be shown to emphasize the association of cold edema with primary syphilis.

LAURENCE R. TAUSSIG, University of California Medical School, San Francisco: Color plates of certain dermatologic conditions. Exhibit of illuminated plates showing dermatologic conditions related to systemic conditions.

H. J. TEMPLETON, B. M. RIX and ROBERT THOMSON, Samuel Merritt Hospital, Oakland, Calif.: Syphilis. A roentgenologic study of the absorption of various bismuth preparations. Exhibit of roentgenograms from the gluteal region of injected rabbits.

FRED D. WEIDMAN and JOHN H. BESANCON, University of Pennsylvania, Philadelphia: Syringoma of the face and shoulder. Exhibit of wax reconstruction showing histologic differences in syringoma of face and shoulder; employment of wax reconstruction; drawings from serial sections leading up to wax reconstruction and wax adaptation.

CHARLES MALLORY WILLIAMS, New York Skin and Cancer Hospital, New York: Tinea of toes and toe-nails. Exhibit of cultures of ringworm organisms from the toe-nails, and from the skin of the feet, the toe-nails of which were proved to contain ringworm organisms; also lantern slides and transparencies illustrating the disease and causative organisms.

A. G. YOUNG and F. H. L. TAYLOR, Thorndike Memorial Laboratory, Harvard Medical School, Boston: Studies on the distribution and excretion of mercury. Exhibit of charts showing the rate of excretion of the commonly used mercurial compounds and their distribution and concentration in the various tissues.

SECTION ON RADIOLOGY

The exhibit of the Section on Radiology will cover the following topics: (1) films showing slipped femoral epiphysis; (2) films illustrating the various stages of osteomyelitis; (3) films illustrating the results of roentgen treatment of giant cell tumor; (4) films illustrating the progress of Legg-Calvé-Perthes disease; (5) films illustrating early verified diagnoses of pulmonary tuberculosis; (6) selected exhibits of educational and research value. There will be also exhibits correlating the

educational program of the Cooperative Committee on Fractures. The committee in charge is composed of Lloyd Bryan, San Francisco; Dorwin Palmer, Portland, Ore., and P. M. Hickey, chairman, Ann Arbor, Mich.

ARTHUR W. ERSKINE, Cedar Rapids, Iowa: Roentgen therapy technic. Exhibit of data, charts, curves, tables and photographs showing that variations in routine roentgen therapy technic can be reduced to three:

	I	II	III
Kilovolts	135	135	135
Milliamperes	5	5	5
Anode-skin-distance in cm.	25	25	40
Aluminum in mm.	1.0	1.0	1.0
Copper in mm.	0	0.25	0.25

(1) reasons for choice of physical factors; (2) physical and biologic characteristics of roentgen rays produced by the three technics; (3) method of developing a safe standard technic.

J. M. GEORGE, Quanah, Texas: Progressive bone changes in osteomyelitis. Exhibit of roentgenographic observations with accompanying interpretations; roentgenograms illustrating progressive bone changes in osteomyelitis; causes of error in interpretation; and evaluation of roentgenographic studies.

P. M. HICKEY, University Hospital, Ann Arbor, Mich.: Lateral teleroentgenography of the thorax. Exhibit demonstrating advantage of lateral plates made of the chest at a distance of ten feet for the demonstration of interlobar effusions, pleural effusions, the cardiac angle with the anterior chest wall, the arch and the descending aorta.

C. C. MCCOY, H. J. GERSTENBERGER, L. P. HARSH and D. G. SHIELDS, Babies and Children's Hospital, Cleveland: Bone lesions in childhood. Exhibit showing bone disorders in childhood: (1) developmental; (2) traumatic; (3) infectious; (4) metabolic; (5) obscure inflammatory; (6) neoplastic; (7) general. Reproductions of more unusual conditions with descriptive legends: achondroplasia, diaphyseal aclasis, cleidocranial dysostosis, osteogenesis imperfecta, osteopetrosis, xanthomatosis and the various osteochondritides (Köhler's, Perthes', Freiberg's, etc.). Also similar reproductions of the more typical observations in congenital syphilis, scurvy and rickets.

EUGENE P. PENDERGRASS and TEMPLE FAY, Hospital of the University of Pennsylvania, Philadelphia: Encephalography. Exhibit of a large number of roentgenograms of cerebral pathologic changes ranging from simple brain atrophy to brain tumors; glass model of the cerebrospinal fluid system. Also illustrated by motion picture films and projection slides showing technic, roentgen procedure and pathologic changes.

DAVID STEEL, Cleveland Hospital and Western Reserve University, Cleveland: Correlation of roentgenologic and anatomic observations in heart disease. Exhibit of reduced teleroentgenograms of selected cases of the various cardiac lesions. Each case is proved and a tinted illuminated photograph showing the lesion responsible for the silhouette is presented. Essential data, such as age, sex, color and anatomic diagnoses, are printed on a caption above.

C. G. SUTHERLAND, Mayo Clinic, Rochester, Minn.: Roentgenologic film exhibit. Exhibit of roentgenograms showing study of (*a*) malignant lesions of bone; (*b*) benign lesions of bone; (*c*) different forms of osteitis involving the spine and pelvis; (*d*) gastric ulcer, carcinoma of the stomach and duodenal ulcer.

SECTION ON DISEASES OF CHILDREN

The exhibit under the auspices of the Section on Diseases of Children will be confined to the following topics: (*a*) the effects of vitamins as applied to infant feedings; (*b*) milk and its modifications. The committee in charge of the exhibit is composed of Jay Durant, Seattle; C. G. Grulee, Chicago; McKim Marriott, St. Louis; J. W. Rosenfeld, Portland, and L. Howard Smith, chairman, Portland.

ROGER H. DENNETT, New York Post-Graduate Medical School and Hospital, New York: The routine use of vitamin B in infant feeding. Exhibit of charts showing the necessity for and results of feeding infants supplemental vitamin B as contained in wheat germ sugar. Table exhibit consisting of demonstration of practical ways of mixing and administering this wheat germ sugar in practical infant feeding.

F. THOMAS MITCHELL, Department of Pediatrics, University of Tennessee, Memphis: Incidence of rickets in the South. Exhibit of charts showing case reports of children, giving age when studied, previous diet, whether or not cod liver oil had been used, state of nutrition, and clinical evidences of rickets noted.

SECTION ON OPHTHALMOLOGY

Two years ago, the Section on Urology, with the American Social Hygiene Association cooperating, sponsored an exhibit on gonorrhea in the male. Last year, the Section on Obstetrics, Gynecology and Abdominal Surgery, with the same organization cooperating, arranged an exhibit on gonorrhea in the female. To complete the emphasis on the subject of gonorrhea, this year the Section on Ophthalmology has arranged for a special exhibit on eye infections due to gonorrhea—and also to syphilis—in cooperation with the National Society for the Prevention of Blindness and the American Social Hygiene Association.

The section has appointed a special Committee on Section Exhibit, consisting of Arthur J. Bedell, M.D., Albany, N. Y.; Harry S. Gradle, M.D., Chicago, and Bernard Samuels, M.D., New York, with B. Franklin Royer, M.D., representing the National Society for the Prevention of Blindness, and Walter M. Brunet, representing the American Social Hygiene Association, secretary of the committee. [Dr. Brunet's services for this exhibit have been generously donated by the New York Tuberculosis and Health Association.]

ARTHUR J. BEDELL, Albany, N. Y.: Syphilis involving the fundus of the eye. Exhibit of stereoscopic photographs of the fundi of eyes.

RANDAL HOYT, Department of Syphilis, New York Skin and Cancer Hospital, New York: Syphilis involving the eye. Exhibit of charts showing the pathology of syphilitic involvement of the optic nerve, explaining the manner of examination of the eye and of reflexes.

GEORGE M. MACKEE, Department of Dermatology and Syphilology, New York Post-Graduate Medical School and Hospital, New York: Syphilis involving the eye. Exhibit of photographs showing external manifestations of syphilis of the eye.

NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS (B. Franklin Royer), New York: Birth infections, gonorrheal infections and syphilitic infections of the eye. Exhibit illustrating birth infections which result in blindness, featuring the birth infections that are not gonococcal in origin, as well as gonococcal infections; also charts dealing with syphilis as it affects the eye and external tissue of the lids, gumma, etc.; mounted specimens illustrating other drawings and photographs.

BERNARD SAMUELS, Department of Ophthalmology and Pathology, Cornell University Medical School, New York: Syphilis involving the eye. Exhibit of photographs, charts, slides, pathologic specimens and other material showing internal and external manifestations of syphilis of the eye.

EDUCATIONAL

GOVERNMENT AND NATIONAL ORGANIZATIONS

AMERICAN ASSOCIATION OF HOSPITAL SOCIAL WORKERS, Chicago: Integration of social and medical treatment. Exhibit of (1) pamphlets, reprints and case studies demonstrating the function of medical social work and the organization of social service departments; the relation of clinics and hospitals to other social agencies and the part the social worker plays as interpreter of the hospital to the community; (2) posters showing the relationship between social and medical treatment, including information on the various phases of medical social work.

AMERICAN FEDERATION OF ORGANIZATIONS FOR THE HARD OF HEARING, Inc., Washington, D. C.: Exhibit of a series of panels, posters and charts describing the work of the federation.

AMERICAN HEART ASSOCIATION, New York: Heart disease as affecting the duration of life. Exhibit of charts showing (1) effects of heart disease on life in the United States Registration Area; (2) effects of heart disease in separate states; (3) organization to prevent and postpone death from heart disease.

AMERICAN HOSPITAL ASSOCIATION, Chicago: HOSPITAL LIBRARY AND SERVICE BUREAU. Exhibit of hospital building plans and specifications, bulletins, package libraries, statistical charts and general information pertaining to the construction, maintenance and operation of hospitals.

AMERICAN LIBRARY ASSOCIATION, Chicago: HOSPITAL LIBRARIES COMMITTEE. Exhibit of types of hospital libraries for the use of patients, staff, attendants and employees.

AMERICAN SOCIAL HYGIENE ASSOCIATION: See SECTION EXHIBITS, SECTION ON OPHTHALMOLOGY, and CENTRAL STATE HOSPITAL OF INDIANA.

AMERICAN SOCIETY FOR THE CONTROL OF CANCER, New York: Control of cancer. Exhibit of posters, statistical graphs, charts, pictorial representation, Davis bulletin; also lantern slides emphasizing particularly cancerous and other conditions affecting the mouth.

CENTRAL STATE HOSPITAL OF INDIANA (M. A. Bahr and W. L. Bruetsch), Indianapolis, and AMERICAN SOCIAL HYGIENE ASSOCIATION (William F. Snow and Walter Clarke), New York: Neurosyphilis and malarial treatment of paresis. Exhibit of pathologic specimens, gross and microscopic, bacteriologic specimens, photographs and photomicrographs, charts and a motion picture film illustrating the pathology of syphilis of the central nervous system, and also the symptomatology of the various typical forms of neurosyphilis. The methods and results of treatment, especially of malaria therapy as shown by histologic specimens, temperature charts, photographs, and the like.

LOUIS I. DUBLIN, Metropolitan Life Insurance Company, New York: Current public health subjects. Exhibit of wall panels giving recent statistics on: (1) use of insulin; (2) use of toxin-antitoxin; (3) longevity; (4) mortality from heart disease; (5) mortality from tuberculosis; (6) the influenza epidemic of 1929; (7) its effect on mortality from other causes.

NATIONAL BOARD OF MEDICAL EXAMINERS, Philadelphia: Exhibit of charts describing the work and progress of the National Board of Medical Examiners.

NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS: See SECTION EXHIBIT, SECTION ON OPHTHALMOLOGY.

U. S. DEPARTMENT OF AGRICULTURE, Bureau of Animal Industry, Washington, D. C.: Tuberculosis eradication work. Exhibit of panels depicting the progress of the eradication of tuberculosis from live stock, particularly under the modified accredited area plan.

U. S. DEPARTMENT OF COMMERCE, Bureau of Mines, Washington, D. C.: Hydrogen sulphide poisoning. Exhibit of photographs illustrating the places of occurrence of poisoning; the effects of the hydrogen sulphide on animals; charts and literature showing the marked increase during the last few years due to the greatly increased production of high sulphur crude petroleum.

U. S. DEPARTMENT OF LABOR, Children's Bureau, Washington, D. C.: Study of rickets in New Haven, Connecticut and Porto Rico. Exhibit of posters showing interesting data in connection with a study of rickets.

UNITED STATES PHARMACOPEIAL CONVENTION, Washington, D. C.: Pharmacopeia of the United States. Pacific slope important official drug plants and their preparations. Exhibit of some important official drug plants grown on the Pacific slope, together with preparations of these plants. Some of the plants to be displayed are: cascara; belladonna; peppermint; digitalis; hydrastis; red rose. Each edition of the U. S. P. will be displayed. Some of the earlier compounding and dispensing equipment contrasted with modern equipment.

UNITED STATES VETERANS' BUREAU: See SURGICAL AND MEDICAL EXHIBITS.

AMERICAN MEDICAL ASSOCIATION

COUNCIL ON PHARMACY AND CHEMISTRY: Posters and specimens illustrating the efforts of the Council in the interests of scientific medicine and rational prescribing. The exhibit cites typical examples of the Council's problems and illustrates some of the methods used in solving them.

AMERICAN MEDICAL ASSOCIATION CHEMICAL LABORATORY: Posters and specimens bearing on such subjects as newer synthetics, comparative prices of proprietary and nonproprietary remedies and drug control.

BUREAU OF INVESTIGATION: Exhibit of: (1) a series of educational posters on the nostrum evil and quackery prepared by the bureau for the use of physicians, health officials, schools and colleges; (2) a set of special posters prepared by the bureau dealing with certain dangerous or misleadingly exploited cosmetics; (3) pamphlets on the nostrum evil and quackery prepared and issued by the bureau for the purpose of furnishing information easily and inexpensively to the public, and (4) the volume "Nostrums and Quackery" prepared and issued by the bureau.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS: (1) reliable information about medical education, licensure, reciprocity, hospitals, postgraduate courses, accredited internships and approved laboratories; (2) display of colored maps and charts showing data regarding progress of medical education and development of hospitals; (3) pamphlets on medical education, hospitals, and nurse training schools; (4) the American Medical Association's Hospital Register.

BUREAU OF HEALTH AND PUBLIC INSTRUCTION: Exhibit of (1) charts and posters of the health education series; of infant welfare series and some of the prize posters of the HYGEIA contest; (2) charts and pamphlets showing cooperative work of National Education Association and the bureau; (3) "Manual of Suggestions for the Conduct of Periodic Health Examinations," and the blanks prepared by the bureau for the conduct of the examinations, to which particular attention will be called; (4) publications of the bureau for the medical and health education of the public.

BUREAU OF LEGAL MEDICINE AND LEGISLATION: Posters showing activities of the bureau; extent and cost of medical defense activities of constituent associations; status of lye legislation; states having basic science requirements; states having annual registration requirement; states providing for eugenic sterilization of the feebleminded.

AMERICAN MEDICAL ASSOCIATION LIBRARY: Graphic demonstration by charts and posters of the various services rendered by the library to the individual physician and in the field of current medical literature. An exhibit of the new QUARTERLY CUMULATIVE INDEX MEDICUS, specimens illustrating the reference service, samples of package libraries and periodical lending service. Motion pictures of library activities will be shown.

COUNCIL ON PHYSICAL THERAPY: Posters, maps and charts demonstrating the fact that physical therapy is not a separate and distinct therapy but a valuable adjunct to proper surgical and medical care, and also the fact that, for its effective use, scientific knowledge on the part of the practitioner is necessary.

Awards

There will be two classes of awards consisting each of (*a*) a gold medal, (*b*) a silver medal, (*c*) a bronze medal and (*d*) three certificates of merit.

[NOTE.—The special (subsidized) exhibits (Fresh Pathology Exhibit, Fracture Exhibit and Demonstration of Biochemical Diagnostic Methods) and the exhibits of the headquarters of the American Medical Association are not open to awards.]

CLASS I

Awards in class I are made for exhibits of individual investigations which are judged on basis of originality and excellence of presentation.

CLASS II

Awards in class II are made for exhibits which do not exemplify *purely experimental* studies, which are judged on the basis of the excellence of correlating facts and excellence of presentation.

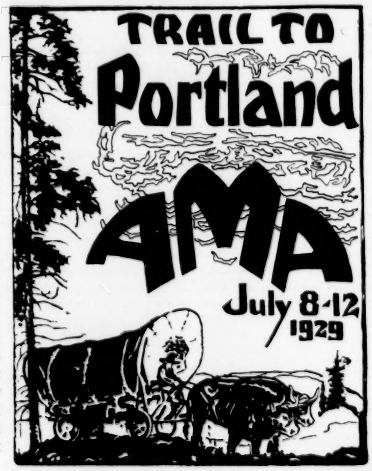
Medals are awarded only to individuals. A special certificate of merit will be awarded to the best educational exhibit in the Educational Classification (this includes exhibits by National Societies, etc.).

The Jury on Awards will be composed of five persons. It will make the decisions on Wednesday. The names of the jury will not be available until after the decisions have been published.

THE TECHNICAL EXPOSITION

While there can be no possible substitute for brains in the practice of medicine, nevertheless the modern practitioner relieves his mind of a vast amount of troublesome detail, hard work, roundabout methods and nerve-wracking uncertainty by using the technical aids made available to him by industries working in cooperation with the medical profession.

In the simplest sort of examination he settles quickly and specifically the question of the temperature of his patient by his faithful thermometer. His stethoscope tells him "All's well within" or "Danger ahead." And in the more thorough diagnostic procedure the x-ray machine, the microscope, the metabolism apparatus answer a definite "Yes" or "No" to his questions of doubt.



Likewise, in treatment, the worry of compounding medicines, of knowing whether they are of a standard potency, of putting them up in a convenient and possibly elegant form for administration to the patient—these details can be swept clear from the mind of the doctor today by technical skill and manufacturing genius, which befriend and aid him in almost every move he makes.

No wonder, then, that the technical exhibits at the Convention each year assume more and more of an educational aspect. Here are not only the best of the technical aids that have been developed for use of the physician, but with them are attendants, demonstrators, investigators who know their every detail.

The exhibits at Portland will be staged in an unusually effective manner, and the visitor can acquire valuable information no matter in what part of the hall he may be. Likewise, regardless of the character of his work—whether it be that of a hard-driven country practitioner or a busy specialist from the large city—he can obtain new bits of knowledge, new and easier methods of doing certain things by searching carefully through the entire exhibit hall. Large pharmaceutical manufacturers will present their newest developments in medicinals, and have research men present to discuss their important clinical applications. New diagnostic instruments will be presented by many manufacturers for the first time. Book publishers will show their newest publications along with full lines of those standard works which are the bulwark of present day medical literature. The exhibits of dietetic products will be of unusual interest because of the rapid additions being made to our knowledge of nutrition.

Take plenty of time to see the technical exhibits. True, each exhibit is fundamentally commercial, yet each exhibitor and his representatives come in the spirit of service. They are present first of all to give information. No physician need hesitate to ask questions or stop to inspect any display. He will receive courteous treatment and will not be embarrassed or made to feel obligated to the representative. A few hours spent each day during the week in the exhibit halls will yield new ideas, new stimulus in generous measure to each visitor.

The following advance descriptions which had been received up to the time of going to press indicate the wealth of interest offered by the technical exhibits at Portland. The exhibits will open Monday, July 8. Hours will be from 8:30 a. m. until 6:00 p. m. daily. The official closing will be at noon, Friday, July 12.

WILL C. BRAUN,
Business Manager.

BOOKS

D. APPLETON AND COMPANY

An outstanding feature of the Appleton exhibit at booth 31 will be the announcement of the supplement volume to the George Blumer edition of Billings-Forchheimer's "Therapeusis of Internal Diseases." New volumes will be shown of the Clinical Pediatrics monographs and the recent Cumulative Appendix to the Gynecological and Obstetrical monographs will also be displayed. Other new publications there to be examined will be: "A Surgical Diagnosis," J. Lewi Donhauser; "Pathology," Power and Hala; "Proctology," Frank C. Yeomans; "Principles and Practice of Minor Surgery," Foote and Livingston; and "Gonorrhea and Kindred Affections" by Livermore and Schumann.

F. A. DAVIS COMPANY

At exhibit booth 128 these new Davis books may be examined: an "Atlas of the Fundus Oculi," Dr. Arthur J. Bedell; a translation by Benjamin M. Gasul of Chicago of the "Nutrition of Healthy and Sick Infants and Children"; "Partnerships, Combinations and Antagonisms in Disease," Edward C. B. Ibotson; "The Conquest of Cancer by Radium and Other Methods," Dr. Daniel T. Quigley of Omaha; Neustaedter's "Practical Treatise on Clinical Neurology"; "Diagnostic Methods and Interpretations in Internal Medicine," Dr. Samuel A. Loewenberg; and Juilly's "Practical Surgery of the Abdomen."

PAUL B. HOEBER, INC.

At booth 32 the following Hoeber books published since the first of the year will be featured: Forrester's "Imperative Traumatic Surgery"; Evans' "Spinal Anesthesia"; George and Leonard's "The Vertebrae, Roentgenologically Considered"; McClung's "Handbook of Microscopical Technique"; "Otosclerosis, A Résumé of the Literature to 1928"; Warthin's "Old Age, The Major Involution"; Malloch's "William Harvey." As usual there will be shown copies of old classics of medicine, including several incunabula.

LEA & FEBIGER

At booth 62 the following will be on display: Osler's "Modern Medicine"; Joslin's "Treatment of Diabetes Mellitus"; Joslin's "Diabetic Manual"; Jelliffe & White's "Diseases of the Nervous System"; Pemberton's "Arthritis"; MacAusland's "Arthroplasty"; Kuntz's "Autonomic Nervous System"; Farr's "Local Anesthesia"; Hess' "Rickets"; Faust's "Helminthology"; Ballenger's "Nose, Throat and Ear"; Schamberg & Kolmer's "Acute Infectious Diseases"; Kolmer's "Serum Diagnosis."

J. B. LIPPINCOTT COMPANY

The standard reference medical textbooks and special monographs of the Lippincott Company, including a number of new works by recognized authorities of importance to all the various branches of professional activity and not heretofore shown, will be displayed at booth 30. The exhibit will include the complete list of pharmaceutical and nursing textbooks.

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THE MACMILLAN COMPANY

One of the books of outstanding importance on display at the Macmillan booth, 79, will be "Clinical Aspects of Venous Pressure" by Dr. J. A. E. Eyster, appearing in the new Macmillan Medical monograph series. Other new books that may be examined are: Parsonnet and Hyman's "Applied Electrocardiography"; Rolleston-McNee's "Diseases of the Liver, Gall-Bladder, and Bile-Ducts"; Goldzieher's "The Adrenals," and Fisher's "Chronic Arthritis."

THE C. V. MOSBY COMPANY

Some of the new Mosby books to be shown are the following: Gradwohl's "Blood and Urine Chemistry"; Haden's "Clinical Laboratory Methods"; Hertzler's "Thyroid Gland"; Hewes & Sandes' "Nervous System"; Joly's "Stone and Calculous Diseases"; Kelley's "Surgical Diseases of Children"; Levinson's "Cerebrospinal"; Maranon's "The Climacteric"; Moore's "The Tonsils"; Negus' "Mechanism of the Larynx"; Orr's "Osteomyelitis"; Runting's "Chiropody"; Steindler's "Spine and Thorax," and Wigger's "Electrocardiography." Booth 63.

THOMAS NELSON & SONS

The "Nelson Loose-Leaf Living Medicine" (seven volumes and an index) and the Nelson "Loose-Leaf Living Surgery," now completed in seven volumes may be seen at booth 75. Other of their books will be "Synthetic Anatomy" by J. E. Cheesman, a new and original series of drawings; "Reconstructive Surgery" by Dr. Ferris Smith, a manual of head and neck surgery with 189 illustrations and 88 stereoscopic plates; "Diseases of the Thyroid Gland" by Nellis Barnes Foster, with a section on "Malignant Growths" by Eugene H. Pool.

W. B. SAUNDERS COMPANY

A great number of new Saunders books and new editions will be on exhibition at booths 47, 48 and 165. Of particular importance may be mentioned Wayne Babcock's "Surgery"; the new Mayo Clinic Volume; Willius' "Electrocardiograms"; Granger's "Physical Therapeutic Technic"; Blumer's "Bed-side Diagnosis"; McGuigan's "Therapeutics"; Jackson and Coates' "Nose, Throat and Ear"; Wechsler's "Neuroses"; new edition of Boyd's "Surgical Pathology"; new edition of Garrison's "History of Medicine"; Pelouze on "Gonorrhea in the Male"; new edition of De Lee's "Obstetrics" and of Grave's "Gynecology," and advance sheets of a number of books going through press.

WILLIAM WOOD & COMPANY

At booth 80 (facing the A. M. A. exhibits) physicians will have an opportunity to browse among thirty of the 1929 Wood publications including Conybeare, "Medicine"; Tidy, "Symptomatology"; Cade, "Radium Treatment of Cancer"; Wakeley, "Surgical Pathology"; International Medical Annual 1929; Thomson, "Protozoology"; and new editions of Jones and Lovett, "Orthopedic Surgery"; Bigger, "Bacteriology"; Garrod, "Diseases of Children"; Romanis and Mitchiner, "Surgery"; Manson, "Tropical Diseases"; also the 1928 edition of French, "Differential Diagnosis."

DIETETIC PRODUCTS

AMERICAN ASSOCIATION OF MEDICAL MILK COMMISSIONS

Through scientific literature and trained assistants this association will portray the methods and standards used in the production of a natural milk intended for use by the medical profession for prescription purposes. Physicians interested in ascertaining what certified milk stands for and what the American Association of Medical Milk Commissions are doing may obtain information at booth 164.

THE AMERICAN HONEY PRODUCERS' LEAGUE

The use of honey as a milk modifier will be explained at booth 100. The exhibit will be essentially educational, calling the attention of the medical profession to simple and effective dietary and therapeutic uses of natural sugars found in natural honey.

THE BATTLE CREEK FOOD COMPANY

A dietitian in charge of booth 140 will tell about the corrective foods which were first developed for the guests and patients of the Battle Creek Sanitarium and are now available for general use. Among these foods are a number that help the physician in cases of diabetes, secondary anemia, hyperacidity, obesity, intestinal toxemia, constipation. A copy of "Healthful Living," the Battle Creek diet book, may be obtained by applying at the booth.

CALIFORNIA FRUIT GROWERS EXCHANGE

Reprints on reported work done by Chaney, Sansum, Howe, Willimott and Wokes and others in relation to the health value of citrus fruits will be distributed to physicians at booth 124. A new reprint of special interest is that on "Achlorhydria Gastrica" covering results of special diets with fifty patients at the Santa Barbara Cottage Hospital. Elizabeth Hayward, Sunkist dietitian, will be in charge of the exhibits.

R. B. DAVIS COMPANY

Cocomalt will be exhibited and samples dispensed to visiting physicians at booths 59 and 66. Representatives will describe how Cocomalt increases the caloric value of milk, adds proteins of high biological quality (calcium and phosphorus) and vitamins A, B (complex) and D.

HORLICK'S MALTED MILK CORPORATION

Among the old, familiar faces to be seen at the Portland convention will be Horlick's Malted Milk, and with the "original" will be exhibited Horlick's Chocolate Malted Milk, a newer member of the family; Horlick's Maltose and Dextrin Milk Modifier, the latest addition to the group; and Horlick's Malted Milk Tablets. Visiting physicians will be given an opportunity to have samples of Horlick products forwarded direct to their homes or offices. Booth 41.

MEAD JOHNSON & COMPANY

Of much interest to physicians visiting this exhibit will undoubtedly be a five-minute motion picture demonstration of the technic employed in the reestablishment of breast milk. The film is strictly scientific in character, having no relation to any products of this manufacturer. In addition, Mead's complete group of infant diet materials will be available for inspection and demonstration at booths 67, 68 and 69.

KELLOGG COMPANY

An exhibit of literature on the Kellogg products, available for the use of medical men in their practice, may be seen at booths 56 and 57. Included in this material are food charts, diet lists and the like. All-Bran muffins and Kaffee Hag Coffee will be served to visiting physicians.

KIDDIE KANNED FOODS, INC.

The idea of canning sieved foods as originated by two Seattle mothers will be explained in booth 71. These college women are now the manufacturers of Kiddie Kanned sieved foods. The manufacturers will explain the process of making these sieved vegetables and will show how food value is conserved in the manufacture.

CHARLES B. KNOX GELATINE CO.

This firm will furnish physicians with a new booklet that shows fifty ways to use Knox Sparkling Gelatine in the diabetic diet, as well as booklets on Knox Gelatine's place in the treatment of anemia, overweight, and its value in infant and child feeding. The opportunity will be given to taste some of the foods prepared according to these recipes. Booths 90 and 91.

LABORATORY PRODUCTS COMPANY

S. M. A., a modification of cow's milk in which the fat, protein, carbohydrate and salt content are adjusted in such a way as to produce a mixture that resembles breast milk in its essential, physical, chemical and metabolic properties will be demonstrated at booths 153 and 154. Representatives will describe nutritional results and the success of S. M. A. in the prevention of rickets and spasmophilia. S. M. A. is produced by special permission of the Babies and Children's Hospital of Cleveland.

M & R DIETETIC LABORATORIES, INC.

Similac, a modification of cow's milk, will be exhibited in space 138 and 139. How this product may be used for both supplemental and complemental feedings will be described by representatives in charge. Visitors are invited to ask for information as to how Similac approximates breast milk.

MELLIN'S FOOD CO.

Visiting physicians will be given an opportunity to acquire full information relative to the source, nature and amount of food elements present in Mellin's Food, and to discuss the conditions where Mellin's Food may be used to the advantage of the patient. This display will be in booth 197.

MERRELL-SOULE COMPANY, INC.

This firm's group of standard powdered milks for infant feeding and adult diet, including Klim Powdered Whole Milk,

Merrell-Soule Powdered Protein Milk, Merrell-Soule Powdered Whole Lactic Acid Milk and their fat-free companion products may be examined at booths 92 and 99. Reliquified Klim will be served, and the simplicity of preparing lactic acid milk formulas from Merrell-Soule powdered Whole Lactic Acid Milk will be demonstrated.

NESTLÉ'S FOOD COMPANY, INC.

Lactogen, the infant food, is to be shown at booth 45. Samples of Lactogen, and literature featuring "The Professor and Henry," will be sent to all interested physicians who apply to the representatives in charge of Nestle's booth.

VITAVAC COMPANY

The process of preparing Vitavac Orange Juice from tree-ripened California Valencia oranges without concentration or dilution will be explained at booths 108 and 115. Physicians will be interested in knowing that Vitavac Orange Juice is processed without the addition of chemical preservatives or artificial color and is ready without change of flavor or measurable loss of vitamin potency for immediate use by the consumer. Data showing how the product compares with fresh juice may be obtained at the booth.

INSTRUMENTS, APPARATUS AND SUPPLIES

W. D. ALLISON CO.

As pioneer manufacturers of distinctive wood furniture for physicians, W. D. Allison Co. will have on display in their booth, 55, their new Adam period suite of treatment-room equipment, a Hanes rectal table manufactured by them and other standard special pieces of their line.

A. S. ALOE COMPANY

Keniston-Root, the western division of the A. S. Aloe Company, will display a complete line of surgical instruments and feature "White Steel" aseptic furniture at booths 76 and 83. Of major interest in the exhibit will be the first public showing of the "Graves" Hydraulic Lift, Monel Metal Top, Office Chair-Table and the "Beaumont" Hydraulic Lift, and Leatherette Upholstered Office Chair-Table.

AMERICAN CYSTOSCOPE MAKERS, INC.

A line of children's catheterizing and irrigating cystoscopes, instruments for stone crushing under constant vision, bladder forceps, operating nasoscope, antroscopes, and sinuscopes are among the latest developments of this firm. They will be displayed at booth 201, together with unique diagnostic sets, battery handles, and special lighting batteries.

C. R. BARD, INC.

As the Maison J. Eynard, in Paris, is the mecca of urologists of the world visiting France, so booth 43 of C. R. Bard, Inc., their American agents, will be the meeting place of the members of the American Medical Association interested in the advance in urological armamentaria.

BARD-PARKER COMPANY

In addition to the Bard-Parker knife with detachable blades, two new products, Bard-Parker Formaldehyde Germicide and a specially designed sterilizing container manufactured by Parker, White & Heyl, Inc., a subsidiary of Bard-Parker Company, Inc., will be shown at booth 148. The firm will be prepared to supply literature describing the new germicide in detail.

W. A. BAUM CO., INC.

Physicians interested in any way in blood pressure apparatus may examine all five models of the new Lifetime Baumanometer at booth 129. A supply of the United States Bureau of Standards' technologic paper No. 352, "Use and Testing of Sphygmomanometers," an authoritative treatise on blood pressure apparatus, will be presented to those visiting the booth.

BECTON, DICKINSON & CO.

The outstanding feature at booths 177 and 194 will be a demonstration of the new B-D "Yale"-Luer hypodermic syringe. This new B-D product is made of a new-formula resistance glass that withstands shock and erosion and may be safely sterilized by boiling or in the autoclave.

FRANK S. BETZ COMPANY

Some of the newer developments in TruTest surgical instruments, WhiteKraft furniture and sundries for physician and surgeon may be inspected in spaces 149 and 150. This showing by the Betz Company will feature a representative line of surgical instruments, nickel plated, chrome plated and in stainless steel. Special souvenirs will be distributed in the Betzco booths.

GEO. W. BRADY & CO.

The Jones portable basal metabolism apparatus will be exhibited at booths 39 and 40. Demonstrations will be made of the instrument in actual operation to illustrate the method by which this device eliminates calculations. Demonstrating how the apparatus may be carried to the patient's room instead of having the patient brought to the apparatus and how the apparatus may be transported by carrying case will also be a feature in this display.

CAMERON'S SURGICAL SPECIALTY CO.

Cameron's boilable lamps and instruments for revealing the field of diagnosis or operation in all of its detail and in its actual color and condition will be shown in use at booths 125 and 126. A feature of these lamps is their clean, cool, concentrated white light. The new Cameron's Thermaloop Cautery and Cameron's Electro-Cautery will also be on display and clinically exhibited.

WILMOT CASTLE CO.

The necessity for complete sterilization will be the feature of the exhibit of Castle "Full-Automatic" sterilizers. The Castle sterilizers on exhibition will be for instruments, dressings and water, alone and in various combinations. The new Rochester Autoclave, which gives hospital sterilizing safety at minimum cost, will also be shown.

CILKLOID SURGICAL DRESSING CO.

A new adhesive tape dispensing machine will be shown in booth S-70 in connection with the Cilkloid Surgical Dressings. This machine enables the doctor or nurse easily to take off any width or length of tape desired. The "M. D. Special" package of Cilkloid will be featured for this line of dressing specialties. It contains a small roll of the impervious form that is extensively used for occlusive coverings and a small roll of the perforated form for direct application to all granulating wounds.

DAVIS & GECK, INC.

An educational motion picture, "The Relation of Absorbable Sutures to Wound Healing" will undoubtedly attract physicians to booths 23 and 24. This picture gives graphic presentation of the correlation between the reaction of tissue to injury and the factors determining the behavior of catgut under various conditions, as observed in the laboratory and in the clinic. The subject matter is based on a compend of high authorities and embodies the results of extensive research.

DE PUY MANUFACTURING CO.

A demonstration of De Puy Aluminium splints, transparent to the X-ray, will be given in booth 29. De Puy has designed and manufactured fracture appliances for the profession for thirty-four years.

THE DE VILBISS COMPANY

A complete line of physician's sprays are to be exhibited at booth 81. The new De Vilbiss chromium-plated sprays, a nebulizer No. 181 for office use and No. 48 for patient's use, will be of interest to the profession.

THE EMVALITE CORPORATION

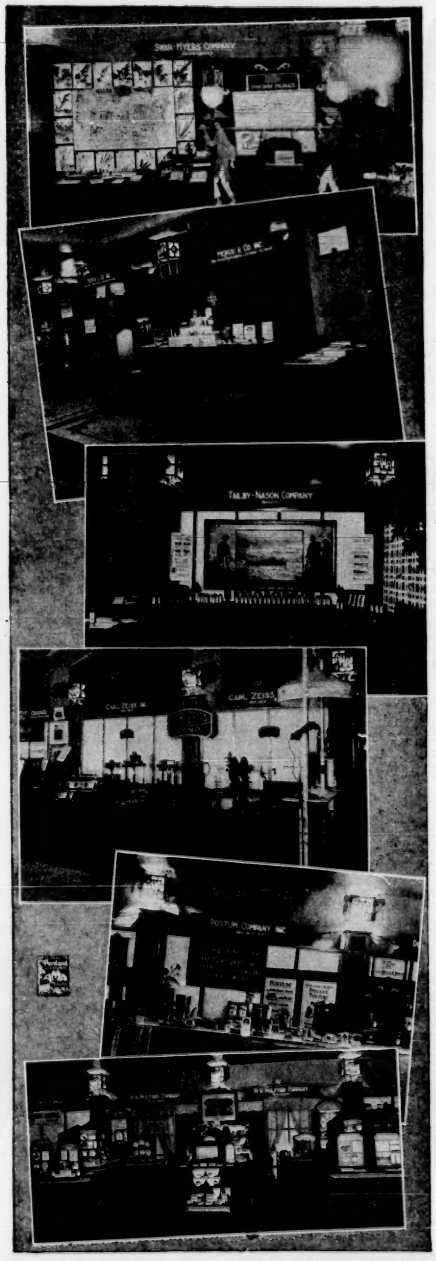
A moving picture exhibit showing the actual application of the Emvalite Diagnostic sets will run continuously each day throughout the convention at booth 101. Another of the features will be a dark room in which will be shown how the Emvalite can be used for transillumination.

THE FOREGGER CO., INC.

In space 130 the Metric gas machine and Gwathmey apparatus will be set up for inspection. Resuscitation with oxygen and carbon dioxide, oxygen tent treatment, anesthesia apparatus and appliances with latest improvements will also be demonstrated.

THE GREPPIN CORPORATION

Eureka lamps, a new development in surgical lighting will be demonstrated and the patented system of the projection of light rays explained at booth 158. Particular attention will be centered on an adjustable Ceiling Mounting spotlight made by Greppin.



La Motte Chemical Products Co.

The entire space at booth 144 will be confined to the showing of La Motte Blood Chemistry outfits. These offer simplified blood chemistry methods for the general practitioner as well as for the technician and were developed originally on specific requests from their physicians. In addition to the La Motte outfits for blood urea, sugar, icterus index, etc., several new outfits will be shown including those for quantitative blood hemoglobin, calcium phosphorus ratio, gastric acidity and blood uric acid.

E. B. Meyrowitz Surgical Instruments Co.

New instruments such as the Upson Eye Magnet, the Hand Slit lamp, the Kirby Cataract set, test charts, trial frames, iris forceps, model Yankauer Laryngeal syringe and Emvalite will be on display at booths 33 and 34. Demonstrations of Slit lamp microscopy and Flateau Laryngoscope will likewise be given at the Meyrowitz exhibit booths.

Pfau's American Instrument Company

A complete line of Pfau's Ear, Nose and Throat Instruments will be on display in space 50. It is of importance to visit this booth to have the newest developments in sinus and mastoid instruments demonstrated. A complete line of anatomical specimens for the Ear, Nose and Throat specialists will also be shown.

Pharmacal Instruments, Inc.

A new emergency hypodermic invention called the Jecto-Stat, a complete, sterile, hypodermic kit, no larger than a fountain pen, will be demonstrated at booth 1. When filled the Jecto-Stat contains a standard Becton, Dickinson Luer Syringe, a Becton, Dickinson Luer-lock Erusto needle, an ampoule of sterile water, and three vials for drug tablets.

Reid Bros.

Aseptic steel furniture finished in the new Duco colors is an innovation to be displayed at the Reid booth, space 159. Porcello models for both hospital and office use will be exhibited. In addition, a sample line of new chrome-finished surgical instruments will be on view.

Sanborn Company

The Sanborn Grafic, a simplified metabolism tester; the Sanborn Benedict with electric motor and blower of new design, and the Sanborn Electrocardiograf, featuring four-knob control box and safety string carrier, will be shown in operation at booth 166. This standard equipment is made in models for office and hospital, either on movable table for hospital use, or with carrying cases for outside use.

J. R. Siebrandt Mfg. Co.

A number of new and improved splints and other fracture appliances will be shown and demonstrated at booths 44 and 51. Of special interest will be the new model Armsplint, the outstanding feature of which is the formed-to-fit body attachment with adjustable side bars. Complicated mechanism has been eliminated, yet it has greater flexibility of adjustment than the former models.

The Spencer Lens Company

A number of new instruments, microscopes, microtomes, delineascopes, photo-micrographic apparatus, colorimeters, etc., will be presented to the profession at booth 157. Several new types of microscope lamps, one especially for general laboratory purposes, has a particular appeal. Representatives will be prepared to make special demonstrations to those interested in various types of projection work, using some new instruments shown for the first time at this convention.

Taylor Instrument Companies

An important addition to the equipment for sterilizers, namely a time lag thermometer for determination of temperature within the autoclave, is to be displayed at booth 133. The Tycos Recording Sphygmomanometer, as well as other Tycos blood pressure apparatus, may also be seen.

Toledo Technical Appliance Company

McKesson Pumps, anesthetic apparatus and metabolism equipment will form part of the large exhibit at booths 52 and 53. The Lovac, postoperative drain, is one of the new developments since the last meeting.

Carl Zeiss, Inc.

The latest models of Zeiss microscopes, diagnostic instruments, and illuminating appliances will be offered for inspection at booths 111 and 112. Special emphasis will be given to the

Zeiss Pantophos, the latest development in operating room lamps. The Jacobaeus-Unverricht Laparo Thoracoscope for exploration of the thoracic or abdominal cavity and for severing pleural strand adhesions by means of cauteries will be of interest as will the Zeiss-Nordenson Fundus camera and the stereo camera for anterior segment of the eye.

ZIMMER MANUFACTURING COMPANY

A complete assortment of fracture appliances, among them the Cook Walking Caliper, Crile head tractor, improved extension and suspension apparatus and the Zimmer fracture bed, will be displayed at booth 82. This bed enables a fracture case to be cared for without disturbance of the patient.

PHARMACEUTICALS AND BIOLOGICALS

ABBOTT LABORATORIES

What promises to be a feature of the exhibit are the modernistic booths of the Abbott Laboratories. During the past year, Abbott has drawn much favorable comment and attention by their modernistic advertisements. At booths 146 and 147 a complete line of ephedrine products will be on exhibit, including specimens of Ma Huang from which the drug is extracted. Other products to be shown will be Butyn, Butesin Picrate Ointment, Chlorazene and Metaphen. Bismarsen, a comparatively new discovery, combining both arsenic and bismuth in a single molecule, will be exhibited by the Dermatological Research Laboratories.

ARMOUR AND COMPANY

This exhibit in space 167 will depict the sources of various pharmaceuticals, surgical ligatures, etc. The interest in the Armour exhibit lies in the fact that the sources of these products are all in meat animals. Along with a vial of pituitary liquid will be the glands from which the substance is extracted; thyroid glands from the throats of cattle, sheep and hogs will illustrate the source of many thyroid preparations. Concentrated Liver Extract, the newest addition to the line, will be shown.

CIBA COMPANY, INC.

An information bureau to answer questions regarding various activities of the Convention and of the different civic bodies in the interests of the Association will be an important feature at the Ciba exhibit. If you want to know when your train departs, or from where a sightseeing tour leaves, or how to get to various points of interest in Portland—ask at the Ciba exhibit. There will be easy chairs and lounges for those who wish to relax. Ciba very sincerely wishes the visting physicians to make themselves at home at booths 107 and 116.

THE CUTTER LABORATORY

Physicians will find in booth 49 an interesting display of hay fever pollen extracts. Both the 60,000 pollen unit (25 dose) treatment set and complete seasonal test sets will be displayed. Part of the exhibit will also be given over to Cutter's High Count Special Pertussis, a bacterial vaccine containing seven and a half billion killed organisms to the cubic centimeter. Self-hardening vaccinating scarifiers will be given complimentary to all physicians desiring them.

THE HALEY M-O COMPANY

Dr. Glenn Jones, assisted by Dr. Frank A. Mack, will be in charge of this exhibit featuring Magnesia—Mineral Oil (25) Haley, formerly Haley's M-O Magnesia Oil, booth 192. Physicians calling here may register for an illuminated copy of the "Eulogy of the Doctor" written by Dr. Robert Louis Stevenson as a tribute to the medical men who attended him. The chart, ready for framing, will be mailed gratis.

HOFFMAN-LA ROCHE

Publicity on this firm's new plant at Nutley, N. J., has added to the interest of physicians in "Roche" products. Staff members of the scientific department will be in attendance at booths 156 and 175 to tell about these modern scientific laboratories and to discuss the merits of "Roche" products. Souvenirs of the new "Roche" home will be distributed.

LEDERLE ANTITOXIN LABORATORIES

This exhibit at booth 58 will comprise a presentation of some of the newer Lederle biological products: antitoxin for gas gangrene; Erysipelas Antitoxin, and Scarlet Fever Antitoxin; Pollen Antigens (Lederle). Also on display will be Normal Horse Serum for burns, as reported by Monteith and Clock; extract of Poison Ivy and Poison Oak for the respective Rhus poisonings; Semple Rabies Vaccine and Digitalis Tablets, made from whole leaf digitalis and standardized by the cat unit.

ELI LILLY AND COMPANY

Liver Extract No. 343, Iletin (Insulin, Lilly) and ephedrine preparations will be illustrated with specimens, photographs and charts designed to show the action and uses of the products. This exhibit in booths 93 and 94 invites the attention of the physicians interested in the treatment of diabetes, pernicious anemia and allergic disturbances.

THE MALTINE COMPANY

At booth 123 physicians may examine the vitamin data supporting the presence of vitamin A, B and D in Maltine with Cod Liver Oil. Laboratory findings sponsored by Walter Hollis Eddy, under whose direction the scientific work was done in a leading American university, are available in the form of detailed reports. Important facts concerning vitamins in general are set forth in interesting style and certain laboratory technic is explained.

MERCK & CO.

In booths 113 and 114 will be shown a display of many interesting, established and new therapeutic agents from the combined lines of Merck & Co., Inc., and of Powers-Weightman-Rosengarten Co. Among the remedies to be shown are Bromipin, Digitan, Erythrol Tetranitrate, Iodipin, Optochin Base, Skiabaryt, Arsenobenzol Billon (Arsphenamine), Novarsenobenzol Billon (Neoarsphenamine), Sulpharsphenamine Billon, Bismosol, Stovarsol and Tryparsamide. A number of specialties of E. Bilhuber, Inc., will also be displayed.

H. K. MULFORD CO.

A moving picture describing the preparation of Mulford Acidophilus Bacillus Blocks will feature this exhibit. The development of acidophilus therapy and the production of M. A. B. have been illustrated in an interesting film. Diphtheria Toxoid, Ivyol, Perfringens Antitoxin and other recent developments will also be on display at booths 109 and 110.

E. L. PATCH & CO.

All the way from Boston, representatives of the E. L. Patch Company will "trail to Portland" to tell the profession about Patch's Flavored Cod Liver Oil. At the Patch Company booths, Nos. 168 and 169, physicians will see a large codfish caught off the New England Coast, will have an opportunity to examine its liver, and will be able to learn how every lot of Patch's Flavored Cod Liver Oil is biologically tested for both vitamin A and vitamin D.

PETROLAGAR LABORATORIES, INC.

The Petrolagar display in booths 182 and 183 will embrace a demonstration of the miscibility of Petrolagar and its advantages over plain mineral oil. An entirely new issue of drawings (in color) of the large bowel will be distributed to physicians.

G. D. SEARLE & CO.

Bismuth Sodium Tartrate (Searle), the new and water-soluble bismuth salt that is administered intramuscularly in aqueous solution, will be exhibited at booth 176. Arsenicals (Searle)—Arsphenamine, Neoarsphenamine, Sulpharsphenamine—whose manufacture is based on the aqueous hydrochloric acid process, which renders them free from methyl alcohol, methyl derivatives and ether, will also be shown. The originator of this process, P. A. Kober, will be present at the Searle exhibit to supply information.

UPSHER SMITH CO.

The care taken at Foxglove Farm in growing, curing and cleaning the digitalis leaf will be a feature at space 163. Every physician visiting the booth is invited to accept a trial package of the digitalis standardized in cat units, with a copy of the brochure, "Back to Withering," which gives in concise form the modern way of calculating the dosage in cat units.

E. R. SQUIBB & SONS

Following the trend of pediatrists who recognize the importance of safeguarding the infant's vitamin B requirements, E. R. Squibb & Sons will feature Vitavose—the new maltose-dextrin which is rich in vitamin B. Vitavose milk will be served at the Squibb booth every day. Other new Squibb specialties will also be shown, and a competent staff of representatives will be present to answer inquiries about these new and other Squibb products. Booths 60, 61, 64 and 65.

SWAN-MYERS COMPANY

Again this company will feature Ephedrine Inhalant and pollen products, and again the director of its laboratories and the chief botanist will be in attendance to explain the technical

points about these products. A part of the exhibit space, booth 137, will be equipped with a regular office spray outfit and treatment chair; and physicians who are suffering from nasal congestion may prescribe their own treatment here with Swan-Myers Ephedrine Inhalant No. 66. A trained nurse will take care of the administration.

TAILBY-NASON COMPANY

During the fishing season of 1928 a great cod of record proportions was taken from the Lofoten waters of Norway for Nason & Co. a/s, the Norwegian subsidiary of Tailby-Nason Company. This unusual fish, 4 feet 11 inches long and weighing 30 kilos, will form an interesting part of the exhibit of Nason's Palatable Cod Liver Oil. Other important features will be the white rats used in testing the oil for its vitamin activity. Booth 200.

WINTHROP-METZ

Since the Winthrop Chemical Company and the H. A. Metz Laboratories have been associated for some time they will have a combined display in booth 172. There will be found Luminal and its various preparations; the salvarsans, including Silver Salvarsan; the synthetic epinephrin, Suprarenin; Oscodal; Mesurol, the high content bismuth antiluetic; and Phanodorn, the new hypnotic. The diuretics, Salyrgan and Novasurol, will also be there.

X-RAY AND ELECTROTHERAPEUTICS

BRITESUN, INC.

A complete line of improved carbon arc ultra violet and infra red lamps consisting of both hand feed and automatic types, may be inspected at Booth 54. The Britesun Duo-Arc Automatic lamp to be shown is in reality two single arc lamps in one. By snapping a 4-way switch, it is possible to operate either set of carbons independently or both sets simultaneously.

BURDICK CORPORATION

The complete line of Burdick physical therapy appliances will attract physicians to booths 184 and 187. The firm will show their Super-Standard Air-cooled Mercury Arc lamp, their Faucet Type Water-cooled lamp, the Portable Mercury Arc, the Self-Contained Combination Unit—both Air and Water-cooled burners with one control cabinet, three sizes of Zoalite Infra-red lamps—large, medium and small, and the Burdick Body Culturor.

EASTMAN KODAK CO.

The possibilities of photography in the various branches of medical work will be demonstrated at booths 134 and 135. Eastman films and accessories for roentgenology, clinical photographs made with simple equipment, and also medical motion pictures made with sixteen-millimeter amateur apparatus will comprise the display.

H. G. FISCHER & CO., INC.

Twenty-five years of experience in research and construction of physical therapy apparatus will be embodied in the new Fischer models to be exhibited in booths 10 and 21. A new low-priced diathermy unit made up in both portable and semi-portable types will be shown and the firm will also exhibit an improved Low Voltage and Contractual Current Generator producing all of the fifteen usable low voltage currents; a carbon arc lamp; and a new Infra-red Generator.

HANOVIA CHEMICAL & MFG. CO.

A Super Alpine Sun lamp, answering the need for physicians and institutions desiring especially high ultra violet intensity may be viewed at booths 141, 142, 151 and 152. The automatic interlocking switch on this model prevents high starting current and the voltmeter control and burner voltage adjuster give absolute control of burner voltage. In addition to the Super Alpine Sun lamp, the standard Hanovia lamps will be shown, the Alpine Sun, Kromayer, Luxor Model Alpine Sun lamp and the Home Model Alpine Sun lamp.

KELLEY-KOETT MFG. CO., INC.

A new Keleket table which combines the features of the cystoscopic table with an incorporated radiographic arrangement of a Potter-Bucky diaphragm and a self-aligned tube stand will be shown at booths 25 and 38. The knee elevation can be easily and conveniently changed to cope with any desired operating position. All the moving parts are worm and gear

driven with the worms and gears carefully and properly guarded. A variety of other types of Keleket apparatus will also be shown.

McINTOSH ELECTRICAL CORP.

In addition to the most recent models of High Frequency Apparatus, Polysine Generators, Infra Red Generators, the Vattenborg Colonic Irrigator, etc., the new special model of the McIntosh Alpine Sun Lamp with the new Chromium plate finish will be exhibited for the first time. This firm which has been serving the medical profession for the past fifty years will exhibit at booths 9 and 22.

NATIONAL CARBON CO., INC.

Eveready Sunshine and Therapeutic Carbons and the new Eveready Sunshine Lamp may be seen in booths 190 and 191. This lamp is designed to reproduce only the wave lengths found in natural sunlight and these in essentially true proportions. A powerful projecting spectroscope by means of which the spectra of the various types of Eveready Sunshine and Therapeutic Carbons may be shown on a large fluorescent screen will be among the attractions. The light transmitting glass and other light filters will be visually demonstrated with this apparatus.

STANDARD X-RAY COMPANY

The new Standard Motor-Driven Fluoroscopic and Radiographic Bucky Table and the electrically operated Stereoscopic Tube Stand will be presented at booths 26 and 37. In addition several Standard remotely-controlled radiographic machines will be exhibited. These machines may be wall mounted, thereby effecting a saving of space. The Standard Roentgenometer, an instrument for the direct and continuous measurement of X-Ray radiation will also be a feature.

VICTOR X-RAY CORPORATION

Interest will be centered on the exhibit of the Victor Shock Proof X-Ray unit featured as "the first 100% electrically safe medical X-ray apparatus." The original experimental model was displayed at last year's convention, but several important changes have since been made in its design resulting in increased flexibility. The unit to be exhibited in Portland is one of the first outfits assembled on a quantity production basis. Booths 12, 13, 14, 15, 16, 17, 18 and 19.

WAPPLER ELECTRIC CO.

The possibilities of high speed heavy duty radiography in silence and without radio disturbance will be demonstrated in the Wappler booths Nos. 160, 161, 170, 171. In addition to this special feature, the firm will show its newest physical therapy apparatus, with special emphasis on the Sinutherm, by means of which wave currents and diathermy are administered simultaneously to the patient.

MISCELLANEOUS

ARMAND COMPANY

One of the out-of-the-ordinary exhibits will be this one at booth 136 displaying an interesting array of ingredients used in the manufacture of Armand preparations. The exhibit, which will be superintended by W. G. Wiseman, will be designed to answer for physicians any questions concerning cosmetics which might arise in medical practice.

ARROWHEAD SPRINGS

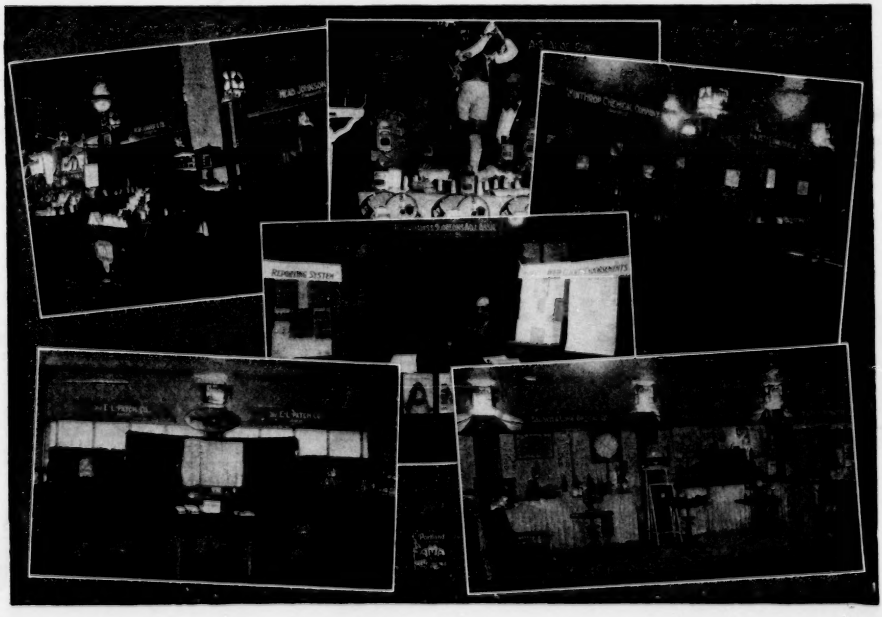
A motion picture will show the environment, natural facilities and professional equipment of Arrowhead Springs, California. The arsenical steam caves are a unique natural phenomenon which may be viewed on the screen. Booth 98.

BERGER BROTHERS COMPANY

Spencer surgical supports, belts, corsets, and bandeaux designed to meet the physician's requirements for his patient, may be examined at booth 46. Supports for movable kidney, enteroptosis, sacro-iliac relaxation or sprain, hernia, pendulous abdomen, maternity and postpartum wear will be featured. Information on difficult cases requiring a support with the two sides made to different measurements and figure description may also be obtained.

MRS. DAY'S IDEAL BABY SHOE CO.

As one of the pioneers in the research work on the proper care of babies' feet, this firm will show shoes scientifically constructed on three lasts, numbers 22, 44 and 66, which are designed for all normal baby feet. The display will be on view at booth 162.



EARNSHAW KNITTING CO.

The linen garments for babies recently made available by Earnshaw will be displayed at booth 178. A sample of linen mesh, Sun Suits, no-pins no-buttons, K-Band, or other garments originated by Vanta will be sent to physicians who make their request at the booth.

FLORSHEIM SHOE CO.

Florsheim Feeture Arch Shoes will be on display at booth 5. How the metatarsal raise fitting in the dome of the metatarsal arch pushes the bones into position and puts the foot in the proper place in the shoe under the weight of the body will be demonstrated by those in charge of the exhibit.

LINEN UNDERWEAR CO.

How garments of linen mesh will readily absorb perspiration and thereby aid in preventing colds will be demonstrated in booth 87. The three weights of Wallace's Linen Mesh Underwear, in all the different style shirts, drawers and union suits for men, women and children, will be shown and a special discount offered physicians and their families.

THE MEDICAL BUREAU

To those who seek new opportunities either through new assistants or through new placements, Miss Larson, the director of the Medical Bureau, will offer the facilities of this organization. At booth 193, physicians may leave their request for any medical employees they may need—nurses, dietitians, technicians, etc. No charge for this service is made to employers.

PHYSICIANS' AND SURGEONS' ADJUSTING ASSOCIATION

Officers of the association will be present at space 77 to outline methods used in collecting delinquent accounts and to explain their reporting system in relation to the client.

VITAGLASS CORPORATION

A visual demonstration of the difference between common glass and Vitaglass in its transmission of ultra-violet light will be given at booth 195. This will be effected by means of a mercury vapor lamp as a source of ultra-violet in conjunction with certain types of fluorescent substances. Complete information on biological tests in reprint form from THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, the *Military Surgeon* and other publications will be on hand.

AMERICAN MEDICAL ASSOCIATION

In spaces 95, 96 and 97 you will find a display of A. M. A. periodicals including THE JOURNAL, *Hygeia*, and the special journals, books and pamphlets. The official A. M. A. auto insignia, the official Fellowship emblem and other items of interest will also be featured.

HYGEIA

Hygeia, The Health Magazine of the American Medical Association, will have booth 97, and here copies of the most recent issue will be given out to visiting physicians. Those in charge of the booth will show a number of attractive premiums in combination with *Hygeia* subscription offers. In the same booth, the eleventh edition of the American Medical Directory, now on the press, will be ready for inspection.

COOPERATIVE MEDICAL ADVERTISING BUREAU

Every physician is interested in his own state medical journal, and as one of the sponsors is also concerned with its advertising standards. At booth 96 may be seen the entire list of thirty state medical journals that conform to the American Medical Association's standards. Here physicians may learn how the Bureau acts as the central advertising department for these publications, supervising and discriminating between the acceptable and nonacceptable advertising that is offered generally to medical publications.

List of Exhibitors

Name	Space No.
Abbott Labs., North Chicago, Ill.	146-147
Acme-International X-Ray Co., Chgo.	27-28-35
Allison Co., W. D., Indianapolis	55
Aloe Co., A. S., St. Louis	76 & 83
Alstock, Fay & Co., Inc., Portland	6
Amer. Assn. of Med. Milk Com., Brooklyn	164
Amer. Cytoscope Makers, New York	201
Amer. Honey Prod. League, Los Angeles	100
American Laundry Mach. Co., Cincinnati	188
American Medical Association, Chicago	95-96
American Optical Co., San Francisco	155
Appleton & Co., D., New York	31
Arch Gen'l Elec. Refrig. Co., Portland	88
Armand Company, The, Des Moines	136
Armour and Company, Chicago	167
Arrowhead Springs Corp., Los Angeles	98
Bard, Inc., C. R., New York	43
Bard-Parker Co., Inc., New York	148
Battle Creek Food Co., Battle Creek	140
Baum Co., Inc., W. A., New York	129
Bausch & Lomb Opt. Co., Rochester, N. Y.	132
Becton, Dickinson & Co., Rutherford, N. J.	177 & 194
Berger Brothers Co., New Haven	46
Betz Co., Frank S., Hammond, Ind.	149-150
Brady & Co., Geo. W., Chicago	39 & 40
Britesun, Inc., Chicago	54
Buck X-Ograph Co., St. Louis	7
Burdick Corp., Milton, Wis.	184-187
Bush Elec. Corp., San Francisco	173
Calif. Fruit Growers Ex., Los Angeles	124
Cameron's Surg. Spec. Co., Chicago	125-126
Camp & Co., S. H., Jackson, Mich.	78
Castle Co., Wilmot, Rochester, N. Y.	131
Cellosilk Mfg. Co., Chicago	36
Certified Lab. Products, San Francisco	42 & 84
Ciba Co., Inc., New York	107-116
Cilkloid Co., Marshalltown, Ia.	70 (So. ½)
Cooperative Med. Adv. Bureau, Chicago	96
Cutter Laboratory, Berkeley, Calif.	49
Davis & Geck, Inc., Brooklyn	23 & 24
Davis Co., F. A., Philadelphia	128
Davis Co., R. B., Hoboken, N. J.	59 & 66
DePuy Manufacturing Co., Warsaw, Ind.	29
DeVilbiss Company, The, Toledo	81
Doniger & Co., S., New York	8
Dry Milk Co., The, New York	143
Earnshaw Knitting Co., Newton, Mass.	178
Eastman Kodak Co., Rochester, N. Y.	134-135
Emvalite Corp., Cleveland	101
Engeln Electric Co., Cleveland	198 & 199
E and J Mfg. Co., Glendale, Calif.	122
Fischer & Co., Inc., H. G., Chicago	10-21
Florsheim Shoe Co., Chicago	5
Foregger Co., Inc., The, New York	130
Greppin Corp., The, Glendale, Calif.	158
Haley M-O Co., Inc., The, Geneva, N. Y.	192
Hallam Corp., Pittsburgh	4
Hanovia Chemical, Newark	141-142-151-152
Hoeber, Inc., Paul B., New York	32
Hoffmann-La Roche, New York	156 & 175
Horlick's Malted Milk Corp., Racine, Wis.	41
Huntington Rubber Mills, Portland	189
Hygeia, Chicago	97
Ideal Baby Shoe Co., Danvers, Mass.	162
Johnson & Co., Mead, Evansville, Ind.	67-68-69
Juvenile Wood Products, Inc., Ft. Wayne, Ind.	2
Kelley-Koett Mfg. Co., Covington, Ky.	25 & 38
Kellogg Company, Battle Creek, Mich.	56-57
Kiddie Kanned Foods, Inc., Seattle	71
Knox Gelatine Co., Johnstown, N. Y.	90 & 91
Laboratory Products Co., Cleveland	153 & 154
LaMotte Chem. Products Co., Baltimore	144
Lea & Febiger, Philadelphia	62
Lederle Antitoxin Lab., New York	58
Leitz, Inc. E., New York	145
Lilly & Co., Eli, Indianapolis	93 & 94
Linen Underwear Co., Greenwich, N. Y.	87
Lippincott Co., J. B., Philadelphia	30
Macmillan Co., The, New York	79
Maltine Company, Brooklyn	123
M. & R. Dietetic Lab., Columbus	138 & 139
McIntosh Electrical Corp., Chicago	22 & 9
Medical Bureau, The, Chicago	193
Mellin's Food Co., Boston	197
Merck & Co., Inc., Philadelphia	113-114
Merrell-Soule Co., Inc., New York	92 & 99
Metz Lab., Inc., H. A., New York	172
Meyrowitz Surg. Instr. Co., New York	33 & 34
Mosby Co., C. V., St. Louis	63
Mulford Co., H. K., Philadelphia	109 & 110
Nat'l Carbon Co., Cleveland	180-181, 190-191
Nelson & Sons, Thomas, New York	75
Nestle's Food Co., New York	45
Patch Co., The E. L., Stoneham, Mass.	168 & 169
Petrolagar Lab., Inc., Chicago	182-183
Pfau's American Instr. Co., New York	50
Pharmacal Instr. Co., New York	1
Phys. & Surgs. Adj. Assn., Kansas City	77
Postum Co., Inc., New York	85 & 86
Prior Co., W. F., Hagerstown, Md.	129A
Quaker Oats Co., The, Chicago	185 & 186
Reid Brothers, Inc., Seattle	159
Riggs Optical Co., Portland	174
Sanborn Co., Cambridge, Mass.	166
Saunders Co., W. B., Philadelphia	47-48 & 165
Searle & Co., G. D., Chicago	176
Sharp & Smith, Chicago	73 & 74
Siebrandt Mfg. Co., J. R., Kansas City	44 & 51
Smith Co., Upsher, Minneapolis	163
Specialties Mfg. Co., Denver	70 (No. ½)
Spencer Lens Co., Buffalo	157
Squibb & Sons, E. R., New York	60-61-64-65
Standard X-Ray Co., Chicago	26 & 37
Swan-Myers Co., Indianapolis	137
Tailby-Nason Co., Boston	200
Taylor Instr. Cos., Rochester, N. Y.	133
Toledo Tech. Appl. Co., Toledo	52 & 53
Travers Surgical Co., San Francisco	173
Victor X-Ray, Chicago	12-13-14-15-16-17-18-19
Vitaglass Corp., New York	195
Vitavac Company, Fullerton, Calif.	108-115
Wappler, Long Island City	160-161-170-171
Winthrop Chem. Co., New York	172
Wood & Co., Wm., New York	80
Zeiss, Inc., Carl, New York	111-112
Zimmer Mfg. Co., Warsaw, Ind.	82

Space numbers 130 to 201, inclusive, are located in auditorium (upper level).

PRELIMINARY PROGRAM OF THE SCIENTIFIC ASSEMBLY

OFFICERS OF SECTIONS, 1928-1929

PRACTICE OF MEDICINE—Chairman, Russell L. Cecil, New York; Vice Chairman, S. Marx White, Minneapolis; Secretary, Bryce W. Fontaine,* First National Bank Building, Memphis, Tenn.

SURGERY, GENERAL AND ABDOMINAL—Chairman, Donald C. Balfour, Rochester, Minn.; Vice Chairman, E. P. Richardson, Boston; Secretary, Frank H. Lahey, 605 Commonwealth Avenue, Boston.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY—Chairman, Carl Henry Davis, Milwaukee; Vice Chairman, Magnus A. Tate, Cincinnati; Secretary, Fred L. Adair, La Salle Building, Minneapolis.

OPHTHALMOLOGY—Chairman, Edward B. Heckel, Pittsburgh; Vice Chairman, F. Park Lewis, Buffalo; Secretary, William C. Finnoff, Imperial Building, Denver.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY—Chairman, William V. Mullin, Cleveland; Vice Chairman, Ralph A. Fenton, Portland, Ore.; Secretary, Gabriel Tucker, University Hospital, Philadelphia.

DISEASES OF CHILDREN—Chairman, W. A. Mulherin, Augusta, Ga.; Vice Chairman, J. B. Bilderback, Portland, Ore.; Secretary, C. A. Aldrich, 545 Lincoln Avenue, Winnetka, Ill.

PHARMACOLOGY AND THERAPEUTICS—Chairman, N. M. Keith, Rochester, Minn.; Vice Chairman, Arthur S. Loevenhart,* Madison, Wis.; Secretary, Robert L. Levy, 31 East 72d Street, New York.

PATHOLOGY AND PHYSIOLOGY—Chairman, M. H. Rees, Denver; Vice Chairman, A. H. Sanford, Rochester, Minn.; Secretary, J. J. Moore, 55 E. Washington St., Chicago.

NERVOUS AND MENTAL DISEASES—Chairman, John L. Eckel, Buffalo; Vice Chairman, Franklin G. Ebaugh, Denver; Secretary, Walter Freeman, 1801 Eye Street, N. W., Washington, D. C.

DERMATOLOGY AND SYPHILOLOGY—Chairman, J. Frank Schamberg, Philadelphia; Vice Chairman, C. Augustus Simpson, Washington, D. C.; Secretary, William H. Guy, Jenkins Arcade, Pittsburgh.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH—Chairman, Stanley H. Osborn, Hartford, Conn.; Vice Chairman, W. F. Cogswell, Helena, Mont.; Secretary, E. L. Bishop, Memorial Building, Nashville, Tenn.

UROLOGY—Chairman, Gilbert J. Thomas, Minneapolis; Vice Chairman, Robert H. Herbst, Chicago; Secretary, Hermon C. Bumpus, Jr., Mayo Clinic, Rochester, Minn.

ORTHOPEDIC SURGERY—Chairman, Walter G. Stern, Cleveland; Vice Chairman, C. B. Francisco, Kansas City, Mo.; Secretary, H. W. Meyerding, Mayo Clinic, Rochester, Minn.

GASTRO-ENTEROLOGY AND PROCTOLOGY—Chairman, Alois B. Graham, Indianapolis; Vice Chairman, Julius Friedenwald, Baltimore; Secretary, George B. Eusterman, Mayo Clinic, Rochester, Minn.

RADIOLOGY—Chairman, M. J. Hubeny, Chicago; Vice Chairman, Leon T. LeWald, New York; Secretary, Fred M. Hodges, 1000 W. Franklin Street, Richmond, Va.

* Deceased.

PROGRAM OF THE OPENING GENERAL MEETING

Tuesday, July 9, 8:30 p. m.

Music.

Call to Order by the President, WILLIAM S. THAYER, Baltimore.

Invocation. RT. REV. WALTER TAYLOR SUMNER.

Address. HON. ISAAC L. PATTERSON, Governor of Oregon.

Address of Welcome. WILSON JOHNSTON, President of the Oregon State Medical Society.

Address of Welcome. E. B. MCDANIEL, President of the Portland City and County Medical Society.

Announcements. ERNST A. SOMMER, Chairman, Local Committee of Arrangements.

Music.

Introduction and Installation of PRESIDENT-ELECT MALCOLM L. HARRIS, Chicago.

Address. MALCOLM L. HARRIS.

Music.

THE PROGRAMS OF THE SECTIONS

Outline of the Scientific Proceedings—The Preliminary Program and the Official Program

The following papers are announced to be read before the various sections. The order here is not necessarily the order that will be followed in the Official Program, nor is the list complete. The Official Program will be similar to those issued in previous years, and will contain the final program of each section with abstracts of the papers, as well as lists of committees, program of the Opening General Meeting, list of entertainments, map of Portland and other information. To prevent misunderstandings and protect the interest of advertisers, it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each Fellow on registration.

SECTION ON PRACTICE OF MEDICINE

MEETS IN BALLROOM OF MASONIC TEMPLE

OFFICERS OF SECTION

Chairman—RUSSELL L. CECIL, New York.

Vice Chairman—S. MARX WHITE, Minneapolis.

Secretary—BRYCE W. FONTAINE,* Memphis, Tenn.

Executive Committee—ROLLIN T. WOODYATT, Chicago; JAMES E. PAULLIN, JR., Atlanta, Ga.; R. L. CECIL, New York.

* Deceased.

(Stenographer—MRS. V. GALVIN, Chicago)

Wednesday, July 10—9 a. m.

The Relation of the American Dietary to Degenerative Disease (Lantern Demonstration).
LOVELL LANGSTROTH, San Francisco.
Discussion to be opened by GEORGE B. EUSTERMAN, Rochester, Minn., and W. D. SANSUM, Santa Barbara, Calif.

Abdominal Delusions (Lantern Demonstration).
M. L. GRAVES, Houston, Texas.
Discussion to be opened by WILLARD J. STONE, Pasadena, Calif., and SEALE HARRIS, Birmingham, Ala.

Right-Sided Malposition of the Colon.
W. R. HOUSTON, Augusta, Ga.
Discussion to be opened by JOHN L. KANTOR, New York, and KENNETH H. AYNESWORTH, Waco, Texas.

Defective Liver Function as a Cause of Chronic Skin Lesions (Lantern Demonstration). FRANK SMITHIES, Chicago.
Discussion to be opened by W. W. BOARDMAN, San Francisco, and KENDAL P. FROST, Los Angeles.

Coccidiodal Granuloma: An Epidemiologic Survey (Lantern Demonstration).
W. T. CUMMINS, San Francisco; C. H. HALLIDAY, Baltimore, and JOSEPH K. SMITH, Bakersfield, Calif.
Discussion to be opened by PHILIP KING BROWN, San Francisco, and KENNETH M. LYNCH, Charleston, S. C.

Coccidiodal Granuloma: Case Report, with Colloidal Copper, Colloidal Lead, and Gentian Violet Treatment; Autopsy Observations (Lantern Demonstration).
D. SCHUYLER PULFORD, Woodland, Calif.
Discussion to be opened by WILLIAM OPHULS, San Francisco.

Sluder's Syndrome and Its Relation to Internal Medicine.
GEORGE DOCK, Pasadena, Calif.
Discussion to be opened by STEWART R. ROBERTS, Atlanta, Ga.

Thursday, July 11—9 a. m.

Chairman's Address: The Function of the Practitioner in the Modern Medical School.
RUSSELL L. CECIL, New York.

The Present Conception of Essential Hypertension.
ARTHUR S. GRANGER, Los Angeles.
Discussion to be opened by GEORGE H. ANDERSON, Spokane, Wash., and WILLARD C. STONER, Cleveland.

Follow-Up Studies on Arterial Hypertension.
JOHN M. BLACKFORD and JAMES M. BOWERS, Seattle.
Discussion to be opened by LESLIE T. GAGER, Washington, D. C.; LOYD THOMPSON, Hot Springs, Ark., and CHARLES T. STONE, Galveston, Texas.

Application of the Electrocardiogram to the Study of the Acutely Ill Patient (Lantern Demonstration).
C. T. BURNETT and GEORGE E. PILTZ, Denver.
Discussion to be opened by R. J. RIETZEL, Galveston, Texas, and JOHN J. SAMPSON, San Francisco.

Undulant (Malta) Fever in the United States: Etiology, Epidemiology and Laboratory Diagnosis (Lantern Demonstration). A. V. HARDY, Iowa City.
Discussion to be opened by RUTH GILBERT, Albany, N. Y., and W. WARNER WATKINS, Phoenix, Ariz.

The Clinical Characteristics of Undulant Fever (Lantern Demonstration). WALTER L. BIERRING, Des Moines, Iowa.
Discussion to be opened by J. C. RUDDOCK, Los Angeles, and FRANK R. MOUNT, Oregon City, Ore.

Some Final Results of the San Francisco Cancer Survey. FREDERICK L. HOFFMAN, Wellesley Hills, Mass.
Discussion to be opened by JOSEPH C. BLOODGOOD, Baltimore, and H. A. L. RYFKOGEL, San Francisco.

Friday, July 12—9 a. m.

Election of Officers

Diabetic Coma (Lantern Demonstration). HENRY J. JOHN, Cleveland.
Discussion to be opened by LESTER J. PALMER, Seattle, and CHARLES T. NUZUM, Santa Barbara, Calif.

Incidence of Arteriosclerosis in Diabetes of Five Years' Duration in Patients Under Age of Forty Years. H. CLARE SHEPARDSON, San Francisco.
Discussion to be opened by J. W. SHERRILL, La Jolla, Calif., and JULIEN E. BENJAMIN, Cincinnati.

Exhaustion States (Lantern Demonstration). C. W. DOWDEN, Louisville, Ky.
Discussion to be opened by E. C. FISHBAUGH, Los Angeles, and WILLIAM DOCK, San Francisco.

Calmette's B C G. GERALD B. WEBB, Colorado Springs, Colo.
Discussion to be opened by F. M. POTTENGER, Monrovia, Calif.; J. B. GUTHRIE, New Orleans, and RALPH C. MATSON, Portland, Ore.

Effect of Tonsillectomy on the Acute Attack of Rheumatic Fever (Lantern Demonstration). WILLIAM H. ROBEY and MAXWELL FINLAND, Boston.

Protozoan Infestation of the Human Bowel: An Attempt to Correlate Clinical and Protozoologic Observations in One Thousand Cases (Lantern Demonstration). V. R. MASON and J. H. KESSELL, Los Angeles.
Discussion to be opened by SIDNEY K. SIMON, New Orleans, and JOSEPH R. TURNER, Tacoma, Wash.

The Use of Stramonium in Postencephalitic Syndromes (Motion Picture Demonstration). A. L. JACOBSON and FREDERICK EPPLEN, Seattle.
Discussion to be opened by R. L. MCCALLA, San Francisco.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN SHRINE HALL OF MASONIC TEMPLE

OFFICERS OF SECTION

Chairman—DONALD C. BALFOUR, Rochester, Minn.

Vice Chairman—E. P. RICHARDSON, Boston.

Secretary—FRANK H. LAHEY, Boston.

Executive Committee—J. TATE MASON, Seattle; J. SHELTON HORSLEY, Richmond, Va.; DONALD C. BALFOUR, Rochester, Minn.

(Stenographer—MISS EDNA WILSON, Chicago)

Wednesday, July 10—2 p. m.

The Repair of Cleft Palates After Unsuccessful Operations (Lantern Demonstration). E. C. PADGETT, Kansas City, Mo.

Chronic Cystic Mastitis of the Female Breast of the Blue Dome Cyst Type and Its Relation to Cancer (Lantern Demonstration). J. C. BLOODGOOD, Baltimore.
Discussion to be opened by J. S. RODMAN, Philadelphia; J. L. RANSOHOFF, Cincinnati, and E. I. BARTLETT, San Francisco.

Fractures of the Pelvis: Report of One Hundred and Twenty-Five Cases (Lantern Demonstration). H. E. CONWELL, Fairfield, Ala.

Fractures of the Patella and Olecranon. S. R. BURNAP, Los Angeles.

Hip Fractures (Lantern Demonstration). C. E. RUTH, Des Moines, Iowa.
Discussion on papers of DRS. CONWELL, BURNAP and RUTH to be opened by A. W. ALLEN, Boston, and J. R. COFFEY, Portland, Ore.

Goiter: The Management of the Poor Surgical Risk (Lantern Demonstration). J. DE J. PEMBERTON, Rochester, Minn.

Technic of Thyroidectomy (Lantern Demonstration). B. T. KING, Seattle.
Discussion on papers of DRS. PEMBERTON and KING to be opened by W. I. TERRY, San Francisco, and THOMAS M. JOYCE, Portland, Ore.

Postoperative Phlebitis and Embolism (Lantern Demonstration). RICHARD H. MILLER, Boston.
Discussion to be opened by WALTMAN WALTERS, Rochester, Minn.

Thursday, July 11—2 p. m.

Chairman's Address. DONALD C. BALFOUR, Rochester, Minn.

Anomalous Bile Ducts in Man: Based on a Study of Comparative Anatomy (Lantern Demonstration). S. H. MENTZER, San Francisco.

Some Aspects of Carbohydrate Metabolism in Relation to Hepatic Disease (Lantern Demonstration). I. S. RAVDIN, Philadelphia.

Surgery of the Gallbladder and the Common Bile Duct. E. H. HUTCHINS, Baltimore.

Complete External Biliary Fistula: A Serious Surgical Complication (Lantern Demonstration). OWEN H. WANGENSTEEN, Minneapolis.

Failures After Cholecystectomy. R. B. CATTELL and E. D. KIEFER, Boston.
Discussion on papers of DRS. MENTZER, RAVDIN, HUTCHINS, WANGENSTEEN, and CATTELL and KIEFER to be opened by R. L. SANDERS, Memphis, Tenn.; J. TATE MASON, Seattle, and FRANK H. LAHEY, Boston.

Carcinoma of Colon and Sigmoid (Lantern Demonstration). W. D. HAGGARD, Nashville, Tenn.
Discussion to be opened by R. C. COFFEY, Portland, Ore.

Perinephritic Abscess (Lantern Demonstration). GEORGE K. RHODES, San Francisco.
Discussion to be opened by W. E. LOWER, Cleveland, and A. H. PEACOCK, Seattle.

Friday, July 12—2 p. m.

Election of Officers

Polyvalent Anaerobic Serum in the Treatment of Gas Gangrene (Lantern Demonstration). E. E. LARSON, Woodland, Calif.
Discussion to be opened by J. H. WOOLSEY, San Francisco.

Penetrating Wounds of the Chest (Lantern Demonstration). FRANK K. BOLAND, Atlanta, Ga.

The Diagnosis of Diaphragmatic Hernia (Lantern Demonstration). FRANK S. GIBSON, Cleveland.

Treatment of Empyema by Tidal Irrigation Carried on by the Respiratory Movements, with Supplementary Suction (Lantern Demonstration). J. DERYL HART, Baltimore.

The Use of Surgical Solution of Chlorinated Soda in the Treatment of Purulent Pericarditis (Lantern Demonstration). CLAUDE S. BECK, Cleveland.
Discussion on papers of DRS. BOLAND, GIBSON, HART and BECK to be opened by C. A. HEDBLOM, Chicago, and HAROLD BRUNN, San Francisco.

The Therapeutic Value of Thoracic and Lumbar Ganglionectomy in the Management of Vascular Diseases (Lantern Demonstration). A. W. ADSON and G. E. BROWN, Rochester, Minn.

Generalized Pressure Atrophy of the Brain, Secondary to Traumatic and Pathologic Involvement of the Pacchionian Bodies (Lantern Demonstration). TEMPLE S. FAY, Philadelphia.
Discussion on papers of DRS. ADSON and BROWN and DR. FAY to be opened by GEORGE W. SWIFT, Seattle; LAURENCE SELLING, Portland, Ore., and EUGENE P. PENDERGRASS, Philadelphia.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

MEETS IN SHRINE HALL OF MASONIC TEMPLE

OFFICERS OF SECTION

Chairman—CARL HENRY DAVIS, Milwaukee.
Vice Chairman—MAGNUS A. TATE, Cincinnati.
Secretary—FRED L. ADAIR, Minneapolis.
Executive Committee—ARTHUR H. CURTIS, Chicago; J. C. LITZENBERG, Minneapolis; CARL HENRY DAVIS, Milwaukee.
(Stenographer—MISS EDNA WILSON, Chicago)

Wednesday, July 10—9 a. m.

A Study of the Anemia of Pregnancy (Lantern Demonstration). CHARLES EDWIN GALLOWAY, Evanston, Ill.

Gum Acacia in the Treatment of Obstetric Shock. L. M. RANDALL, Rochester, Minn.

Labor in Elderly Primipara (Lantern Demonstration). MARGARET SCHULZE, San Francisco.

Retroversion as an Obstetric Problem (Lantern Demonstration). E. D. PLASS, Iowa City.

Cervical Injuries and Their Repair (Lantern Demonstration). NORMAN H. WILLIAMS, Los Angeles.

Pelvic Roentgenometry (Lantern Demonstration). CLAYTON R. JOHNSON, Los Angeles.

Thursday, July 11—9 a. m.

Chairman's Address: Obstetrics and Gynecology in General Practice. CARL HENRY DAVIS, Milwaukee.

Diet in the Etiology and Treatment of Sterility (Lantern Demonstration). DONALD MACOMBER, Boston.

The Endometrium in So-Called Idiopathic Uterine Hemorrhage (Lantern Demonstration). C. F. FLUHMANN, San Francisco.

Relation of Ovulation to Menstruation, as Shown by the Recovery of Human Ova from the Uterine Tubes (Lantern Demonstration). J. P. PRATT, Detroit; EDGAR ALLEN, Columbia, Mo., and Q. U. NEWELL, St. Louis.

Uterine Fibroids: A Study of Six Hundred and Seventy Cases (Lantern Demonstration). FRANK W. LYNCH, San Francisco.

Cancer: The Problem of Control, with Especial Reference to Cancer of the Uterus (Lantern Demonstration). JAMES C. MASSON, Rochester, Minn.

Friday, July 12—9 a. m.

Election of Officers

Postcesarean Bursting of Abdominal Wound (Lantern Demonstration). D. A. HORNER, Chicago.

Analysis of Cesarean Sections (Lantern Demonstration). WILLIAM BENBOW THOMPSON, Los Angeles.

Five Years' Mortality and Morbidity with Reference to Previous Streptococcal Infection and Its Bearing on Immunity (Lantern Demonstration). JOHN O. POLAK, Brooklyn.

Factors and Causes in Maternal Mortality. R. W. HOLMES, University, Va.; R. D. MUSSEY, Rochester, Minn., and FRED L. ADAIR, Minneapolis.

Syphilitic Lesions of the Placenta: Their Pathologic and Clinical Significance (Lantern Demonstration). RICHARD PADDOCK, St. Louis.

SECTION ON OPHTHALMOLOGY

MEETS IN COMMANDERY ROOM OF MASONIC TEMPLE

OFFICERS OF SECTION

Chairman—EDWARD B. HECKEL, Pittsburgh.
Vice Chairman—F. PARK LEWIS, Buffalo.
Secretary—WILLIAM C. FINNOFF, Denver.
Executive Committee—JOHN A. DONOVAN, Butte, Mont.; WALTER B. LANCASTER, Boston; EDWARD B. HECKEL, Pittsburgh.
(Stenographer—MISS F. E. DILLAN, Indianapolis)

Fellows are reminded that the meetings of the section will be called to order promptly on the hour scheduled for opening. The formal reading of the papers will be omitted, as reprints of the papers on the program have already been delivered to Fellows.

Each essayist will be given ten minutes in which to summarize the points in his paper and introduce the discussion (except in the case of five minute papers), and five minutes in which to close the discussion.

The Fellows appointed to open the discussion of any paper will be allowed ten minutes. Subsequent speakers will be limited to five minutes.

The papers and all discussions will be printed and bound, forming the Transactions of the Section on Ophthalmology for 1929. Copies of the Transactions may be obtained at $1.50 each, if subscriptions are sent to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 535 North Dearborn Street, Chicago, by August 1, as only enough copies are printed to cover subscriptions received to the time of going to press.

Fellows are requested to register in the section registration book at the entrance. The full name and complete postoffice address should be written plainly.

Wednesday, July 10—2 p. m.

Chairman's Address. EDWARD B. HECKEL, Pittsburgh.

The Functions of the Eyes in the Acquisition of an Education. LLOYD MILLS, Los Angeles.
Discussion to be opened by WILLIAM H. WILDER, Chicago.

Central and Paracentral Homonymous Hemianopic Scotomas (Lantern Demonstration). OTTO BARKAN and HANS BARKAN, San Francisco.
Discussion to be opened by EVERETT L. GOAR, Houston, Texas.

Homonymous Hemianopia: The Primary Sign of Tumors Involving the Lateral Part of the Transverse Fissure (Lantern Demonstration). WALTER I. LILLIE, Rochester, Minn.
Discussion to be opened by LAURENCE SELLING, Portland, Ore.

The Transverse Sinus and Its Relation to Choked Disk (Lantern Demonstration). GEORGE W. SWIFT, Seattle.
Discussion to be opened by A. W. ADSON, Rochester, Minn.

Practical Points in the Treatment of Trachoma (Lantern Demonstration). D. D. MCHENRY, Oklahoma City.
Discussion to be opened by ALBERT E. BULSON, Fort Wayne, Ind.

Thursday, July 11—2 p. m.

Demonstration Session: Exhibition of New Instruments and Appliances

Eye Examination of School Children (Lantern Demonstration). FRANK H. RODIN, San Francisco.
Discussion to be opened by B. FRANKLIN ROYER, New York.

Practical Accuracy and Convenience in Trial Lenses. EDWARD JACKSON and DONALD H. O'ROURKE, Denver.
Discussion to be opened by WALTER B. LANCASTER, Boston.

The Protective Value of Certain Special Types of Spectacle Glass (Lantern Demonstration). JAMES M. PATTON, Omaha.
Discussion to be opened by RALPH A. FENTON, Portland, Ore.

The Five Minute Angle as a General Formula for Recording Visual Acuity. F. PARK LEWIS, Buffalo.
Discussion to be opened by WILLIAM H. CRISP, Denver.

The Significance of Some Changes in the Fundus Vessels, Illustrated with Stereophotographs (Lantern Demonstration). ARTHUR J. BEDELL, Albany, N. Y.
Discussion to be opened by WILL OTTO BELL, Seattle.

Membranous Conjunctivitis with Loss of Eyeballs: Report of Cases (Lantern Demonstration). C. W. RUTHERFORD, Iowa City.
Discussion to be opened by CHARLES M. SWAB, Omaha.

Friday, July 12—2 p. m.

Executive Session

Election of Officers

Pathology of Eyes Enucleated Subsequent to Operations for Glaucoma (Lantern Demonstration). HARRY VANDERBILT WURDEMANN, Seattle.
Discussion to be opened by GEORGIANA M. DVORAK-THEOBALD, Chicago.

Tattooing of the Cornea with Gold and Platinum Chloride (Lantern Demonstration).
DOHRMANN K. PISCHEL, San Francisco.
Discussion to be opened by WILBUR G. GILLETT, Wichita, Kan.

The Crystalline Lens System in Man and the Lower Animals.
JOHN O. MCREYNOLDS, Dallas, Texas.
Discussion to be opened by HALLARD BEARD, Chicago.

The Cause of Cataract and the Nonoperative Treatment of Incipient "Senile" Cataract (Lantern Demonstration).
JOHN E. WEEKS, New York.
Discussion to be opened by WALTER S. FRANKLIN, Santa Barbara, Calif.

Argyrosis of the Conjunctiva: Its Successful Treatment.
M. F. WEYMANN, Los Angeles.
Discussion to be opened by RAY R. LOSEY, New York.

Metallic Intra-Ocular Foreign Bodies Not Demonstrable on Roentgenograms.
N. M. BLACK and F. HERBERT HAESSLER, Milwaukee.
Discussion to be opened by WALTER F. HOFFMAN, Seattle.

Prognosis in Eye Injuries. JOHN A. DONOVAN, Butte, Mont.
Discussion to be opened by WILLIAM C. BANE, Denver.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

MEETS IN COMMANDERY ROOM OF MASONIC TEMPLE

OFFICERS OF SECTION

Chairman—WILLIAM V. MULLIN, Cleveland.
Vice Chairman—RALPH A. FENTON, Portland, Ore.
Secretary—GABRIEL TUCKER, Philadelphia.
Executive Committee—GEORGE M. COATES, Philadelphia; FRANK R. SPENCER, Boulder, Colo.; WILLIAM V. MULLIN, Cleveland.
(Stenographer—MISS F. E. DILLAN, Indianapolis)

Wednesday, July 10—9 a. m.

Chairman's Address. WILLIAM V. MULLIN, Cleveland.

The Rôle of the Eye, Ear, Nose and Throat Clinic in a Tuberculosis Hospital. G. H. B. TERRY, Oteen, N. C.
Discussion to be opened by CHARLES W. BROWN, San Diego, Calif.; JOSEPH B. GREEN, Asheville, N. C., and FRANK R. SPENCER, Boulder, Colo.

Tetany Following the Use of Local Anesthetics (Lantern Demonstration). SAM E. ROBERTS, Kansas City, Mo.
Discussion to be opened by EUGENE R. LEWIS, Los Angeles; FRED L. STAUFFER, Salt Lake City, and J. H. HARTER, Seattle.

Submucous Resection of the Nasal Septum in Children.
FRANCIS W. WHITE, New York.
Discussion to be opened by FRANK B. KISTNER, Portland, Ore.; A. D. MCCANNEL, Minot, N. D., and W. W. CARTER, New York.

The External Operation on the Frontal Sinus (Lantern Demonstration). M. M. CULLOM, Nashville, Tenn.
Discussion to be opened by WILSON JOHNSTON, Portland, Ore.; ROSS HALL SKILLERN, Philadelphia, and ARTHUR C. JONES, Boise, Idaho.

Acute Osteomyelitis Following Radical Operation for the Cure of Suppurative Frontal Sinusitis, Delayed Extension, Secondary Operation and Recovery (Lantern Demonstration). SAMUEL R. SKILLERN, JR., Philadelphia.
Discussion to be opened by HILL HASTINGS, Los Angeles; CARROLL SMITH, Spokane, Wash., and R. R. HAMPTON, Salt Lake City.

Thursday, July 11—9 a. m.

Infection of the Accessory Sinuses and Upper Respiratory Tract in the Presence of Vitamin A Deficiency (Lantern Demonstration). BURT R. SHURLY, Detroit.
Discussion to be opened by RALPH A. FENTON, Portland, Ore.; JOHN L. MYERS, Kansas City, Mo., and SIMON JESBERG, Los Angeles.

Occurrence of Eosinophils in the Maxillary Sinus Mucous Membrane of Asthmatic Patients (Lantern Demonstration).
GEORGE M. COATES and MATTHEW S. ERSNER, Philadelphia.
Discussion to be opened by EDWARD C. SEWALL, San Francisco; HARRY D. EARL, San Pedro, Calif., and HARRY L. BAUM, Denver.

Use of Iodized Oil in the Diagnosis of Chronic Maxillary Sinusitis: Operative Results in Thirty-Five Patients (Lantern Demonstration).
E. LLOYD JONES, Wheeling, W. Va.
Discussion to be opened by ARTHUR W. PROETZ, St. Louis; ROBERT B. KARKEET, Portland, Ore., and ROBERT H. FRASER, Battle Creek, Mich.

Nasal Sinus Infections in Young Children (Lantern Demonstration). LEE WALLACE DEAN, St. Louis.
Discussion to be opened by J. MACKENZIE BROWN, Los Angeles, and JOHN J. SHEA, Memphis, Tenn.

The Sinus Problem from Birth (Lantern Demonstration).
THOMAS E. CARMODY, Denver.
Discussion to be opened by ERNEST M. SEYDELL, Wichita, Kan.; D. L. BETTISON, Dallas, Texas; W. B. CHAMBERLIN, Cleveland, and GEORGE L. WHELAN, Philadelphia.

Surgical Anatomy of the Infant Ear and Temporal Bone (Lantern Demonstration). B. M. KULLY, Omaha.
Discussion to be opened by OLOF LARSELL, Portland, Ore.; ARTHUR M. ALDEN, St. Louis, and W. D. DONOHER, Salt Lake City.

Friday, July 12—9 a. m.

Election of Officers
Exhibition of New Instruments and Appliances
Reports of Committees

Necrology.
GEORGE M. COATES, Philadelphia, Chairman; ARTHUR W. PROETZ, St. Louis; THOMAS E. CARMODY, Denver.

Lye Legislation. CHEVALIER JACKSON, Philadelphia, Chairman.

Examining Board in Otolaryngology.
JOSEPH C. BECK, Chicago, Chairman; ROBERT C. LYNCH, New Orleans.

Otorhinologic Hygiene of Swimming.
H. MARSHALL TAYLOR, Jacksonville, Fla., Chairman.

The Adult Deaf and the Deafened Child.
HAROLD M. HAYS, New York, Chairman.

Progress in the Prevention of Deafness Through the Use of the Audiometer in the Public Schools.
HORACE NEWHART, Minneapolis.
Discussion to be opened by E. P. FOWLER, New York; MAX A. GOLDSTEIN, St. Louis, and H. S. MUCKLESTON, Los Angeles.

Conservative Management in the Early Stage Involvement of the Blood Stream in Otitic Disease (Lantern Demonstration). HAROLD I. LILLIE, Rochester, Minn.
Discussion to be opened by R. F. DAVIS, Portland, Ore.; ISAAC H. JONES, Los Angeles, and WILLIAM P. WHERRY, Omaha.

Mastoiditis-Actinomycosis (Lantern Demonstration).
DANA W. DRURY, Boston.
Discussion to be opened by AUSTIN A. HAYDEN, Chicago; A. T. WANAMAKER, Seattle, and FRANK L. DENNIS, Colorado Springs, Colo.

Rhinoplasty: Facts and Fiction (Lantern Demonstration).
GEORGE D. WOLF, New York.
Discussion to be opened by ADALBERT G. BETTMAN, Portland, Ore.; VILRAY P. BLAIR, St. Louis; FERRIS SMITH, Grand Rapids, Mich., and FREDERICK A. FIGI, Rochester, Minn.

Artificial Appliances in Ear, Nose and Throat Practice (Lantern Demonstration). JOSEPH C. BECK, Chicago.
Discussion to be opened by H. B. GRAHAM, San Francisco, and FIELDING O. LEWIS, Philadelphia.

SECTION ON DISEASES OF CHILDREN

MEETS IN BALLROOM OF MASONIC TEMPLE

OFFICERS OF SECTION

Chairman—W. A. MULHERIN, Augusta, Ga.
Vice Chairman—J. B. BILDERBACK, Portland, Ore.
Secretary—C. A. ALDRICH, Winnetka, Ill.
Executive Committee—HENRY J. GERSTENBERGER, Cleveland; HUGH MCCULLOCH, St. Louis; W. A. MULHERIN, Augusta, Ga.
(Stenographer—MRS. S. V. THOMAS, Chicago)

Tuesday, July 9

Pediatric Clinic to be Conducted by WILLIAM PALMER LUCAS, San Francisco, and ISAAC A. ABT, Chicago.

Wednesday, July 10—2 p. m.

Chairman's Address: A Responsibility of the Section on Diseases of Children.
WILLIAM A. MULHERIN, Augusta, Ga.

Employment of Lysed Vaccines for Treatment of Typhoid and Paratyphoid Fever (Lantern Demonstration).
GIUSEPPE CARONIA, San Francisco.

Chronic Anorexia in Children.
FRED W. SCHLUTZ, Minneapolis.

Blood Diphtheria Antitoxin Studies (Lantern Demonstration).
RANDOLPH G. FLOOD, San Francisco.

Diaphragmatic Hernia (Lantern Demonstration).
PHILEMON E. TRUESDALE, Fall River, Mass.

Cerebral Fluid Postmortem Changes (Lantern Demonstration).
M. G. PETERMAN, Milwaukee.

Thursday, July 11—2 p. m.

Protein Digestion in Infancy.
ERNST FREUDENBERG, Marburg, Germany.

Status Lymphaticus (Lantern Demonstration).
HOWARD SPOHN, Vancouver, B. C.

Language Acquirements in Infants. ISAAC A. ABT, Chicago.

Children's Dentistry (Lantern Demonstration).
CLIFFORD SWEET, RICHARD G. WATSON and HENRY E. STAFFORD, Oakland, Calif.

Chest Roentgenograms of Nontuberculous Children Who Are Suspected of Being Tuberculous (Lantern Demonstration).
ERNST WOLFF and ROBERT S. STONE, San Francisco.

Splenectomy in Thrombopenic Purpura, Including a Report of Three Cases. ALFRED H. WASHBURN, San Francisco.

Friday, July 12—2 p. m.

Election of Officers

Vitamin D, Its Production and Therapeutic Use (Lantern Demonstration). HARRY STEENBOCK, Madison, Wis.

Food Factors Other Than Vitamin D in Rickets.
WILLIAM WESTON, Columbia, S. C.

The Pathogenesis of Infantile Spasmophilia (Lantern Demonstration).
HENRY J. GERSTENBERGER and J. I. HARTMAN, Cleveland; T. S. WILDER, Boston, and G. R. RUSSELL, Cleveland.

Postural Treatment in Bulbar Infantile Paralysis.
JAY I. DURAND, Seattle.

The Size of the Reacting Area in Mantoux Tuberculin Tests in Relation to Classification of Disease and to Other Clinical Factors (Lantern Demonstration).
LLOYD B. DICKEY, San Francisco.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

MEETS IN DORIC ROOM OF MASONIC TEMPLE

OFFICERS OF SECTION

Chairman—N. M. KEITH, Rochester, Minn.

Vice Chairman—ARTHUR S. LOEVENHART,* Madison, Wis.

Secretary—ROBERT L. LEVY, New York.

Executive Committee—W. DE B. MACNIDER, Chapel Hill, N. C.; ROGER I. LEE, Boston; N. M. KEITH, Rochester, Minn.

* Deceased.

(Stenographer—MISS EDNA PEARCE, Chicago)

Wednesday, July 10—2 p. m.

SYMPOSIUM ON THE EVALUATION OF DRUGS

The Pharmacologic Evaluation of New Drugs.
C. D. LEAKE, San Francisco.

The Introduction of New Drugs.
W. A. PUCKNER and P. N. LEECH, Chicago.

The Clinical Evaluation of Drugs. E. E. IRONS, Chicago.

Vaccine and Serum Therapy. R. A. KINSELLA, St. Louis.

Chairman's Address: Intravenous Medication (Lantern Demonstration). N. M. KEITH, Rochester, Minn.

The Chaos of Institutional Drug Therapy and Patient Management. WILLARD C. STONER, Cleveland.

Thursday, July 11—2 p. m.

Salicyl Acidosis (Lantern Demonstration).
CHARLES C. JOHNSON and P. J. HANZLIK, San Francisco.

The Action of the Specific Diuretics (Lantern Demonstration).
G. M. CURTIS, Chicago.

Antiedemic Actions of Calcium Salts and Parathyroid Extract in Systemic Edema (Lantern Demonstration).
M. L. TAINTER, San Francisco.

Classification and Treatment of Chronic Idiopathic Secondary Anemia (Lantern Demonstration).
C. H. WATKINS, Rochester, Minn.

Causes of Failure in Treatment of Juvenile Diabetes (Lantern Demonstration).
F. N. ALLAN and R. M. WILDER, Rochester, Minn.

The Gastric Manifestations of Chronic Colitis (Lantern Demonstration).
F. M. SMITH, G. H. MILLER and W. M. FOWLER, Iowa City.

Circulatory Changes from Therapeutic Doses of Digitalis (Lantern Demonstration). WILLIAM DOCK, San Francisco.

The Influence of Digitalis in Experimental Hyperthyroidism.
C. C. HASKELL, Richmond, Va.

Friday, July 12—2 p. m.

Election of Officers

Magnesium: Its Absorption and Synergism (Lantern Demonstration). J. E. WINTER, Louisville, Ky.

Modern Methods of Treatment of Pulmonary Tuberculosis (Lantern Demonstration).
J. A. SEVIER, Colorado Springs, Colo.

Effects of Intravenous Infusion of Gum Acacia-Saline Solution in Shock and Hemorrhage (Lantern Demonstration).
L. D. HUFFMAN, Los Angeles.

Clinical Observations on Phenylethanolamine.
GEORGE PINESS, Los Angeles.

Composition of Cigarets and Cigaret Smoke (Lantern Demonstration). EMIL BOGEN, CINCINNATI.

The Medical or Nonsurgical Treatment of Varicose Veins (Lantern Demonstration). R. C. LOGEFEIL, Minneapolis.

Chemotherapeutic Progress. W. F. DUTTON, Amarillo, Texas.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN DORIC ROOM OF MASONIC TEMPLE

OFFICERS OF SECTION

Chairman—M. H. REES, Denver.

Vice Chairman—A. H. SANFORD, Rochester, Minn.

Secretary—J. J. MOORE, Chicago.

Executive Committee—ROY G. HOSKINS, Columbus, Ohio; H. R. WAHL, Kansas City, Kan.; M. H. REES, Denver.

(Stenographer—MRS. S. V. THOMAS, Chicago)

Wednesday, July 10—9 a. m.

Distinguishing Appendical Allergy from Appendicitis in Two Hundred and Fifty Appendixes (Lantern Demonstration).
J. A. MCINTOSH, Memphis, Tenn.

Histologic Structure and Prognosis of Carcinomas of the Breast and Uterine Cervix (Lantern Demonstration).
W. C. HUEPER and HENRY SCHMITZ, Chicago.

Cystitis Emphysematosa (Lantern Demonstration).
RALPH G. MILLS, Rochester, Minn.

Coccidioidal Granuloma.
NEWTON EVANS and HOWARD A. BALL, Los Angeles.

An Attempt to Grow Tubercle Bacilli in Tissues (Lantern Demonstration). H. J. CORPER, Denver.

A Survey of Tick-Borne Infections Occurring in Colorado (Lantern Demonstration). F. E. BECKER, Denver.

Present Status of Clinical Pathologists (Lantern Demonstration). W. G. GAMBLE, JR., Chicago.

Thursday, July 11—9 a. m.

Chairman's Address: The Relation of Physiology to Clinical Medicine. M. H. REES, Denver.

Studies on the Extrinsic Nervous Control of the Large Bowel (Lantern Demonstration). A. J. CARLSON, Chicago.

The Advantage of Rate of Excretion over Concentration as the Clinical Criterion in Proteinuria and Glycosuria (Lantern Demonstration).
WILLIAM G. EXTON and ANTON R. ROSE, Newark, N. J.

Renal Overstrain with Intact Kidneys (Lantern Demonstration).
F. W. HARTMAN, Detroit.

The Photo-Electric Hemoglobinometer with One Stage of Amplification (Lantern Demonstration).
A. H. SANFORD and CHARLES SHEARD, Rochester, Minn.

The Influence of Inorganic Elements on Blood Regeneration in Nutritional Anemia (Lantern Demonstration).
VICTOR C. MYERS and HOWARD H. BEARD, Cleveland.

Friday, July 12—9 a. m.

Election of Officers

Autogeneous Vaccines and Their Preparation and Use (Lantern Demonstration). ROBERT A. KEILTY, Washington, D. C.

Parenteral Protein Hybrids and Symbions.
W. H. MANWARING, Stanford University, Calif.

Practical Application of Exotoxins of Hemolytic Streptococci.
ANNA W. WILLIAMS, New York.

Septic Sore Throat. D. J. DAVIS, Chicago.

Undulant Fever (Lantern Demonstration).
WALTER M. SIMPSON, Dayton, Ohio.

The Abortin Intradermic Reaction as an Aid in the Diagnosis of Brucella Abortus Infection in Man (Lantern Demonstration). A. S. GIORDANO, South Bend, Ind.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN IONIC ROOM OF MASONIC TEMPLE

OFFICERS OF SECTION

Chairman—JOHN L. ECKEL, Buffalo.

Vice Chairman—FRANKLIN G. EBAUGH, Denver.

Secretary—WALTER FREEMAN, Washington, D. C.

Executive Committee—WILLIAM HOUSE, Portland, Ore.; LEWIS J. POLLOCK, Chicago; JOHN L. ECKEL, Buffalo.
(Stenographer—MR. JOHN KAISER, Chicago)

Wednesday, July 10—2 p. m.

Chairman's Address. JOHN L. ECKEL, Buffalo.

The Neuropsychiatric Problem in the United States Veterans' Bureau (Lantern Demonstration).
E. O. CROSSMAN, Washington, D. C.
Discussion to be opened by GLENN E. MYERS, Los Angeles.

The Fifth Annual Report on the Malaria Treatment of Neurosyphilis (Lantern Demonstration).
PAUL A. O'LEARY, Rochester, Minn.

Specific and Nonspecific Treatment of Neurosyphilis.
HANS H. REESE, Madison, Wis.
Discussion to be opened by FRANKLIN G. EBAUGH, Denver.

The Experimental Induction of Relatively Uniform Inhibition of Long Reflex Arcs in Epileptic Patients.
JOSHUA ROSETT, New York.

Aseptic (Lymphocytic) Meningitis (Lantern Demonstration).
HENRY R. VIETS, Boston.

Thursday, July 11—2 p. m.

SYMPOSIUM ON MENTAL HYGIENE

Mental Hygiene of Childhood. IRA S. WILE, New York.

Some Practical Aspects of the Sexual Adjustments of Children.
JAMES S. PLANT, Newark, N. J.
Discussion to be opened by CHRISTIAN J. ROHWER, Seattle.

Mental Hygiene and Medicine: Psychiatric Instruction from the Point of View of the Needs of the General Practitioner. FRANKWOOD E. WILLIAMS, New York.

Mental Hygiene in Colleges.
WINIFRED RICHMOND, Washington, D. C.

Mental Hygiene and the Courts.
WINFRED OVERHOLSER, Boston.

Child Guidance Clinics. SIDNEY K. SMITH, Oakland, Calif.
Discussion to be opened by G. S. STEVENSON, New York

Friday, July 12—2 p. m.

Election of Officers

Toxic (Nondermatologic) Effects of Phenobarbital.
J. H. HUDDLESON, New York.

Lesions of the Spinal Cord Following Straining at Stool (Lantern Demonstration).
TOM B. THROCKMORTON, Des Moines, Iowa.

Cases Illustrative of Involvement of the Visual Pathways by Tumor (Lantern Demonstration).
WALTER D. SHELDEN, Rochester, Minn.

Anomalies of Aqueduct of Sylvius: Ventricular Heterotopias and Cortical Anomalies. J. W. KERNOHAN, Rochester, Minn.

Arsenic in the Spinal Fluid (Lantern Demonstration).
LEON H. CORNWALL, HENRY A. BUNKER, JR., and C. N. MYERS, New York.

Treatment of Pituitary Tumors: Rôle of Roentgen Ray and of Surgery (Lantern Demonstration).
E. B. TOWNE, San Francisco.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

MEETS IN CORINTHIAN ROOM OF MASONIC TEMPLE

OFFICERS OF SECTION

Chairman—JAY F. SCHAMBERG, Philadelphia.

Vice Chairman—C. AUGUSTUS SIMPSON, Washington, D. C.

Secretary—WILLIAM H. GUY, Pittsburgh.

Executive Committee—JAMES HERBERT MITCHELL, Chicago; UDO J. WILE, Ann Arbor, Mich.; JAY F. SCHAMBERG, Philadelphia.

(Stenographer—MRS. IRENE HILTON SNYDER, Chicago)

Wednesday, July 10—2 p. m.

Chairman's Address: An Analysis of One Thousand Chemical Blood Studies in Diseases of the Skin, with Deductions to be Drawn Therefrom (Lantern Demonstration).
JAY F. SCHAMBERG, Philadelphia.

Syringoma of the Face and Shoulder: Employment of Wax Reconstruction (Lantern Demonstration).
FRED D. WEIDMAN and JOHN H. BESANCON, Philadelphia.
Discussion to be opened by HOWARD FOX, New York.

Hematogenous Infections and Toxic Dermatoses.
JOSEF JADASSOHN, Breslau, Germany.
Discussion to be opened by WILLIAM ALLEN PUSEY, Chicago.

Tryparsamide in Acute Pemphigus.
JOSEPH GRINDON, St. Louis.
Discussion to be opened by ERNEST L. MCEWEN, Chicago.

Tinea of the Nails as a Source of Reinfection in Tinea of the Feet (Lantern Demonstration).
CHARLES MALLORY WILLIAMS, New York, and ELSE A. BARTHEL, Tuckahoe, N. Y.
Discussion to be opened by FRED D. WEIDMAN, Philadelphia.

Dermatitis Nodularis Necrotica: Report of a Case with Review of the Literature (Lantern Demonstration).
W. W. DUEMLING, Ann Arbor, Mich.
Discussion to be opened by E. A. OLIVER, Chicago.

Cancer Supervention in Skin Diseases: Clinical, Microscopic and Therapeutic Considerations (Lantern Demonstration).
JOSEPH JORDAN ELLER and NELSON P. ANDERSON, New York.
Discussion to be opened by UDO J. WILE, Ann Arbor, Mich.

Acquired Circumscribed Keratoderma of the Dorsum and Lateral Surfaces of the Hands (Lantern Demonstration).
JEFFREY C. MICHAEL, Houston, Texas.
Discussion to be opened by GEORGE M. MACKEE, New York.

Thursday, July 11—2 p. m.

A Study of the Results Achieved Through a New Type of Treatment of Chancroids (Lantern Demonstration).
JOHN E. RAUSCHKOLB, Cleveland.
Discussion to be opened by FRANCIS E. SENEAR, Chicago.

Yaws as Observed in Haiti (Lantern Demonstration).
HOWARD FOX, New York.
Discussion to be opened by J. C. Geiger, San Francisco.

Studies of the Distribution and Excretion of Mercury (Lantern Demonstration).
A. G. YOUNG, Cambridge, Mass., and F. H. L. TAYLOR and H. H. MERRITT, Boston.
Discussion to be opened by HAROLD B. MYERS, Portland, Ore.

The Use of Mercury by the Inunction Route: A Study of Its Value as Measured in Terms of Its Excretion (Lantern Demonstration).
H. N. COLE, JOHN A. GAMMEL, NORA SCHREIBER and TORALD SOLLMANN, Cleveland.
Discussion to be opened by PAUL J. HANZLIK, San Francisco.

The Absorption of Various Bismuth Compounds: A Clinical and Experimental Study (Lantern Demonstration).
H. J. TEMPLETON, Oakland, Calif.; R. M. RIX, Philadelphia, and ROBERT R. THOMSON, Oakland, Calif.
Discussion to be opened by H. N. COLE, Cleveland.

Old Syphilitic Patients: The Status of Cases Untreated and Inadequately Treated (Lantern Demonstration).
CLAUDE B. NORRIS, Youngstown, Ohio.
Discussion to be opened by UDO J. WILE, Ann Arbor, Mich.

Abstract on the Manifestations of Syphilis on the Genitalia of Women (Lantern Demonstration).
PAUL F. STOOKEY, Kansas City, Mo.
Discussion to be opened by UDO J. WILE, Ann Arbor, Mich.

Friday, July 12—2 p. m.

Election of Officers

Cutaneous Neuroma (Lantern Demonstration).
JOHN B. LUDY, Philadelphia.
Discussion to be opened by FRED D. WEIDMAN, Philadelphia.

Acute Vesicular Eruptions of the Hands and Feet (Lantern Demonstration). C. F. LEHMANN, San Antonio, Texas.
Discussion to be opened by SAMUEL AYRES, JR., Los Angeles.

Coccidioidal Granuloma: Clinical and Experimental Observations (Lantern Demonstration).
H. P. JACOBSON, Los Angeles.
Discussion to be opened by HOWARD MORROW, San Francisco.

Carcinoma of the Oral Cavity (Lantern Demonstration).
LESTER HOLLANDER, Pittsburgh.
Discussion to be opened by LYLE B. KINGERY, Portland, Ore.

Cutaneous Melanoma (Lantern Demonstration).
S. WILLIAM BECKER, Chicago.
Discussion to be opened by CLARK W. FINNERUD, Chicago.

A Case of Lymphoblastoma (Lantern Demonstration).
LAWRENCE K. MCCAFFERTY, New York, and GERARD F. MACHACEK, Long Island City, N. Y.
Discussion to be opened by PAUL A. O'LEARY, Rochester, Minn.

Therapeutic Mechanism of Potassium Permanganate Applications: An Experimental Study.
KARL G. ZWICK and FREDERICK O'FLAHERTY, Cincinnati.
Discussion to be opened by E. B. TAUBER, Cincinnati.

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

MEETS IN AUDITORIUM

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Wednesday, July 10—9 a. m.

Medical Factors of Infant Mortality.
DWIGHT M. LEWIS, New Haven, Conn.

Chairman's Address. STANLEY H. OSBORN, Hartford, Conn.

Procedure for the Handling of Poliomyelitis in Maryland (Lantern Demonstration). R. H. RILEY, Baltimore.

The Treatment of Syphilis in Its Relation to Prevention.
THOMAS PARRAN, Washington, D. C.

The Period of Infectivity and Specific Prevention of Chickenpox (Lantern Demonstration). J. E. GORDON, Detroit.

Thursday, July 11—9 a. m.

Research in Tuberculosis. KENDALL EMERSON, New York.

Tuberculosis of Childhood.
HORTON R. CASPARIS, Nashville, Tenn.

The Difference in Diagnostic Criteria for Early Tuberculosis of Insidious and of Acute Onset (Lantern Demonstration).
F. M. POTTENGER, Monrovia, Calif.

Factors in Recovery from Tuberculosis.
ROBERT A. PEERS, Colfax, Calif.

Factors Involved in the Decline of Tuberculosis (Lantern Demonstration). W. P. SHEPARD, San Francisco.

Friday, July 12—9 a. m.

Election of Officers

Health Center Developments in Los Angeles County, California.
J. L. POMEROY, Los Angeles.

The Present Status of Convalescent Serum Therapy.
W. H. KELLOGG, Berkeley, Calif.

Talk on Industrial Hygiene.
THOMAS OLIVER, Newcastle-on-Tyne, England.

SECTION ON UROLOGY

MEETS IN CORINTHIAN ROOM OF MASONIC TEMPLE

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(Stenographer—MRS. IRENE HILTON SNYDER, Chicago)

Wednesday, July 10—9 a. m.

Cortical Abscess of the Kidney (Lantern Demonstration).
CHARLES P. MATHE, San Francisco.
Discussion to be opened by F. H. BRUSH, Yakima, Wash.

Primary Carcinoma of the Ureter: A Review of the Literature and a Report of a New Case (Lantern Demonstration).
P. E. MCCOWN, Indianapolis.
Discussion to be opened by F. P. JOHNSON, Portland, Ore.

High Voltage Roentgen Therapy in Idiopathic Hematuria.
B. H. HAGER, Los Angeles.
Discussion to be opened by WILLIAM C. QUINBY, Boston.

A Physical Investigation of Kidney Function: Preliminary Report. W. E. LOWER, Cleveland.
Discussion to be opened by P. A. ROHRER, Seattle.

Resections of the Kidney Pelvis, Kidney and Ureter for Urinary Obstruction (Lantern Demonstration).
WALTMAN WALTERS, Rochester, Minn.

Factors Influencing the Operative Procedure in Hydronephrosis.
WILLIAM C. QUINBY, Boston.

Plastic Surgery of the Renal Pelvis and Ureter.
ALEXANDER VON LICHTENBERG, Berlin, Germany.
Discussion on papers of DRS. WALTERS, QUINBY and VON LICHTENBERG to be opened by EDWARD L. KEYES, New York, and W. F. BRAASCH, Rochester, Minn.

Thursday, July 11—9 a. m.

Chairman's Address: Renal Tuberculosis (Lantern Demonstration). GILBERT J. THOMAS, Minneapolis.

Tuberculin Therapy in Urologic Tuberculosis (Lantern Demonstration). STANLEY L. WANG, New York.
Discussion to be opened by W. J. PENNOCK, Spokane, Wash.

Differential Diagnosis of Right Sided Pain with Particular Reference to Urologic Lesions (Lantern Demonstration). OSWALD SWINNEY LOWSLEY and FRANCIS P. TWINEM, New York.
Discussion to be opened by J. T. WHITTY, Seattle.

Operation on the Single Kidney, Especially for Stone. EDWARD L. KEYES, New York.

Calculus Disease of Upper Urinary Tract (Lantern Demonstration). A. RAYMOND STEVENS and CLYDE W. COLLINGS, New York.
Discussions on papers of DR. KEYES and DRS. STEVENS and COLLINGS to be opened by WALTMAN WALTERS, Rochester, Minn., and H. T. LOW, Pueblo, Colo.

The Value of Nephrolysis, Ureterolysis and Nephropexy in Carefully Selected Patients (Lantern Demonstration). VINCENT J. O'CONOR, Chicago.
Discussion to be opened by H. W. HOWARD, Portland, Ore.

Friday, July 12—9 a. m.

Election of Officers

Pyelographic Interpretation (Lantern Demonstration). M. A. NICHOLSON, Duluth, Minn.
Discussion to be opened by B. H. HAGER, Los Angeles.

Urology in Women and Gynecology (Lantern Demonstration). WILLIAM E. STEVENS and J. GORDON HENDERSON, San Francisco.
Discussion to be opened by E. F. RISTINE, Seattle.

The Influence of the Cautery Punch Operation in Decreasing the Necessity for Prostatectomy (Lantern Demonstration). JOHN R. CAULK, St. Louis.
Discussion to be opened by CLYDE W. COLLINGS, New York.

Treatment and Results Following Prostatectomy (Lantern Demonstration). L. P. PLAYER, San Francisco.

Management of the Complications Following Suprapubic Prostatectomy (Lantern Demonstration). A. H. PEACOCK, Seattle.
Discussion on papers of DRS. PLAYER and PEACOCK to be opened by O. A. NELSON, Seattle.

Results of Surgery of the Seminal Vesicles (Lantern Demonstration). ROBERT GUTIERREZ, New York.
Discussion to be opened by FRANKLIN FARMAN, Los Angeles.

Regional Anesthesia in Urology. CLARK M. JOHNSON, San Francisco.
Discussion to be opened by P. G. FLOTHOW, Seattle.

SECTION ON ORTHOPEDIC SURGERY

MEETS IN IONIC ROOM OF MASONIC TEMPLE

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(Stenographer—MR. JOHN KAISER, Chicago)

Wednesday, July 10—9 a. m.

Morphology of Scoliosis and Principles of Therapy (Lantern Demonstration). K. R. WERNDORF, Council Bluffs, Iowa.

A Procedure in the Management of Advanced Scoliosis (Lantern Demonstration). P. H. KREUSCHER, Chicago.

Scoliosis: Results of Treatment (Lantern Demonstration). A. E. FLAGSTAD, St. Paul.

Correction of Compressed Fractures of the Vertebrae (Lantern Demonstration). JOHN DUNLOP, Pasadena, Calif.

Fractures and Dislocations of the Cervical Vertebrae (Lantern Demonstration). MITCHELL LANGWORTHY, Spokane, Wash.

Spine Fusion Operations in the Treatment of Low Back and Sciatic Pain (Lantern Demonstration). F. A. CHANDLER, Chicago.

The Paraplegia of Pott's Disease (Lantern Demonstration). E. A. RICH, Tacoma, Wash.

Thursday, July 11—9 a. m.

Orthopedics in Athletics. JAMES H. FINCH, Champaign, Ill.

Volkmann's Ischemic Paralysis (Lantern Demonstration). H. W. MEYERDING, Rochester, Minn.

Chairman's Address. WALTER G. STERN, Cleveland.

Studies on the Bacteriology and Serum Treatment of Poliomyelitis (Lantern Demonstration). E. C. ROSENOW, Rochester, Minn.

Fractures of the Humerus. C. F. EIKENBARY, Seattle.

Fractures of the Foot, Excluding the Os Calcis (Lantern Demonstration). W. L. BROWN, El Paso, Texas.

The Open Reduction of Fractures. A. D. La FERTÉ, Detroit.

Friday, July 12—9 a. m.

Election of Officers

Spinal Arthritis. L. W. ALLARD, Billings, Mont.

Estimation of Disabilities in Injury. J. R. KUTH, Duluth, Minn.

Bony Lesions of the Thorax. CARL A. HEDBLOM, Chicago.

The Value of Biopsy in the Diagnosis of Joint Disease. R. K. GHORMLEY, Boston.

Possible Benefits to Be Derived from Synovectomy. J. W. POWERS, Milwaukee.

The Study of the Neurologic Manifestations of Unusual Lesions of the Vertebrae (Lantern Demonstration). ESLIE ASBURY, Cincinnati.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

MEETS IN AUDITORIUM

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* Deceased.

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Wednesday, July 10—2 p. m.

The Colon as the Site of Focal Infection in Cases of Chronic Pyelitis, Cystitis and Prostatitis (Lantern Demonstration). FRANCIS H. REDEWILL, San Francisco.
Discussion to be opened by ANTHONY BASSLER and F. H. ALBEE, New York.

Factors Influencing the Choice of Treatment in Diseases of the Biliary Tract, with a Review of Cases (Lantern Demonstration). R. H. MCDONALD, Cleveland
Discussion to be opened by M. F. DWYER, Seattle, and THOMAS M. JOYCE, Portland, Ore.

The Clinical Value of Recent Advances in Gastric Analysis. GARNETT CHENEY, San Francisco.
Discussion to be opened by F. D. GORHAM, St. Louis, and A. R. HUFFORD, Grand Rapids, Mich.

Gastric Ulcer and Cancer (Lantern Demonstration). SARA M. JORDAN, Boston.
Discussion to be opened by FRANK H. LAHEY, Boston, and GEORGE B. EUSTERMAN, Rochester, Minn.

An Aid to the Diagnosis of Colonic Adhesions (Lantern Demonstration). LOUIS J. HIRSCHMAN, Detroit.
Discussion to be opened by B. H. ORNDOFF, Chicago, and DUDLEY A. SMITH, San Francisco.

Why Patients Consult the Gastro-Enterologist: A Study of the Motive and Attitude of One Hundred and Fifty Patients (Lantern Demonstration). GEORGE S. STEVENSON, New York.
Discussion to be opened by JAMES S. MCLESTER, Birmingham, Ala., and W. D. SHELDEN, Rochester, Minn.

The Occurrence of Achlorhydria in Relatives of Patients Having Pernicious Anemia (Lantern Demonstration). H. M. CONNER, Rochester, Minn.
Discussion to be opened by GARNETT CHENEY, San Francisco, and H. J. DAVIDSON, Seattle.

Thursday, July 11—9 a. m.

JOINT MEETING WITH SECTION ON RADIOLOGY

SYMPOSIUM ON CLINICAL AND ROENTGENOLOGIC ASPECTS OF MALIGNANT AND BENIGN LESIONS OF THE LOWER ESOPHAGUS AND UPPER THIRD OF THE STOMACH

Malignant Lesions of the Lower End of the Esophagus and of the Cardiac End of the Stomach (Lantern Demonstration). P. M. HICKEY, Ann Arbor, Mich.
Discussion to be opened by B. H. ORNDOFF, Chicago.

Nonmalignant Lesions of the Lower End of the Esophagus and of the Cardiac End of the Stomach (Lantern Demonstration). A. B. MOORE, Rochester, Minn.
Discussion to be opened by ROBERT R. NEWELL, San Francisco.

Malignant Lesions of the Lower End of the Esophagus and Upper Portion of the Stomach (Lantern Demonstration). MAX EINHORN, New York.
Discussion to be opened by JOHN M. BLACKFORD, Seattle.

Chronic Ulcer of the Lower Esophagus and Upper Third of the Stomach. F. A. SPEIK, Los Angeles.
Discussion to be opened by FRANK SMITHIES, Chicago.

Friday, July 12—2 p. m.

Election of Officers

Chairman's Address. ALOIS B. GRAHAM, Indianapolis.

Roentgenologic Visualization of Gastroduodenal Changes by the Compression Technic (Lantern Demonstration). P. G. BOMAN, Duluth, Minn.
Discussion to be opened by P. M. HICKEY, Ann Arbor, Mich., and ROBERT R. NEWELL, San Francisco.

Gastric Cancer: A Clinical and Roentgenologic Study of One Hundred Cases. M. F. DWYER and H. C. TURNER, Seattle.
Discussion to be opened by E. C. FISHBAUGH, Los Angeles, and MAX EINHORN, New York.

Gonorrhea of the Anorectal Region. HERBERT T. HAYES, Houston, Texas.
Discussion to be opened by JEROME M. LYNCH, New York, and CURTICE ROSSER, Dallas, Texas.

Constipation, with Especial Reference to the Mechanical Causes Which Are So Uniformly Overlooked by the Average Physician. DUDLEY A. SMITH, San Francisco.
Discussion to be opened by ALOIS B. GRAHAM, Indianapolis, and J. B. LUCKIE, Pasadena, Calif.

Chronic Intestinal Obstruction: Further Studies in Omental Pathogenesis (Lantern Demonstration). JOHN W. DRAPER and REDFORD K. JOHNSON, New York.
Discussion to be opened by FRANK SMITHIES, Chicago, and SARA M. JORDAN, Boston.

Recognition of Some of the Less Common Diseases: Duodenal-Jejunal Diverticula; Mucocele of Appendix and Cecum. MARTIN G. VORHAUS, New York.
Discussion to be opened by JAMES T. CASE, Battle Creek, Mich., and HOMER WHEELON, Seattle.

SECTION ON RADIOLOGY

MEETS IN AUDITORIUM

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Wednesday, July 10—9 a. m.

Fundamentals of Roentgen Treatment (Lantern Demonstration). H. J. ULLMAN, Santa Barbara, Calif.
Discussion to be opened by GEORGE M. MACKEE, New York.

Fewer Variable Factors of Technic in Roentgen Therapy (Lantern Demonstration). A. W. ERSKINE, Cedar Rapids, Iowa.
Discussion to be opened by E. C. ERNST, St. Louis, and U. V. PORTMANN, Cleveland.

End-Results After Irradiation of Fibromyomas. FRANCIS CARTER WOOD, New York.
Discussion to be opened by HENRY SCHMITZ, Chicago.

Radiotherapy of Chronic Tonsillitis and Pharyngitis. LEILA C. KNOX, New York.
Discussion to be opened by JOSEPH ASPRAY, Spokane, Wash.

Chairman's Address. M. J. HUBENY, Chicago.

Radiation in the Treatment of Carcinoma of the Breast (Lantern Demonstration). G. E. PFAHLER and LEO D. PARRY, Philadelphia.
Discussion to be opened by R. C. BAUMGARTEN, Seattle, and ROY A. PAYNE, Portland, Ore.

Radiation Service for the Modern Hospital. ALBERT SOILAND and ORVILLE N. MELAND, Los Angeles.
Discussion to be opened by C. J. JOHANNESSON, Walla Walla, Wash., and H. B. THOMPSON, Seattle.

Histologic Changes in the Skin Following Irradiation (Lantern Demonstration). E. A. POHLE and C. H. BUNTING, Madison, Wis.
Discussion to be opened by W. E. CHAMBERLAIN, San Francisco.

Thursday, July 11—9 a. m.

JOINT MEETING WITH SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

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Discussion to be opened by FRANK SMITHIES, Chicago.

Friday, July 12—9 a. m.

Election of Officers

Accidental Pneumothorax with Report of Two Cases (Lantern Demonstration). JOSEPH L. HARVEY, Denver.
Discussion to be opened by KENNETH D. ALLEN, Denver.

Carcinoma of the Lung. LLOYD BRYAN, San Francisco.
Discussion to be opened by F. H. RODENBAUGH and HAROLD BRUNN, San Francisco.

Bronchosinusitis Disease. W. WALTER WASSON, Denver.
Discussion to be opened by THOMAS E. CARMODY and T. D. CUNNINGHAM, Denver.

Esophageal Orifice Hernia. MAX RITVO, Boston.
Discussion to be opened by A. L. GRAY, Richmond, Va., and E. P. RICHARDSON, Boston.

Diverticula of the Stomach, with a Report of Five Cases in Which the Diagnosis Has Been Verified at Operation (Lantern Demonstration). ROSS GOLDEN, New York, and J. C. BELL, Louisville, Ky.
Discussion to be opened by E. S. ALLEN, Louisville, Ky.

The Roentgenologic Diagnosis of Pedunculated Tumors and Gastric Mucosa Prolapsing Through the Pylorus into the Duodenum (Lantern Demonstration). EUGENE P. PENDERGRASS, Philadelphia.
Discussion to be opened by E. L. ELIASON, Philadelphia.

Roentgenographic Characteristics of Bone Lesions (Lantern Demonstration). C. G. SUTHERLAND, Rochester, Minn.
Discussion to be opened by W. B. BOWMAN, Los Angeles.

Experimental Biophysics of Normal and Abnormal Bone Growth (Lantern Demonstration). EBEN J. CAREY, Milwaukee.
Discussion to be opened by LEMUEL D. SMITH, Milwaukee.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JUNE 8, 1929

THE PORTLAND SESSION

The last annual session of the American Medical Association in Portland, Ore., was in July, 1905. At that time, a significant paper was read by Dr. Frank Billings, before the Section on Practice of Medicine. It was entitled, "The Secret Nostrum Evil." The Council on Pharmacy and Chemistry had just begun its work; this paper served to focus the attention of the American medical profession on the work of the Council and to initiate a campaign which has changed the nature of medical practice in the United States over a period of twenty-five years. Today the leadership of the Council is generally recognized. As a result of Dr. Billings' paper, a resolution was offered, calling attention to the attempts of Dr. Philip Mills Jones of California to purge American medical periodicals of the advertisements of nostrums, and calling on the Board of Trustees of the American Medical Association to remove from the pages of THE JOURNAL advertisements of all proprietary products not approved by the Council on Pharmacy and Chemistry. At that time there were almost 122,000 medical practitioners in the United States; the American Medical Association had a membership of 17,841, and there were 33,539 readers of THE JOURNAL. Today there are 152,503 physicians in the United States; the American Medical Association has a membership of almost 100,000, and the circulation of THE JOURNAL is approximately the same figure. Evidently the cleaning of the advertising pages of THE JOURNAL and of most of the state medical periodicals in the United States has not resulted to their financial detriment, and has been the means of promoting scientific therapy.

At the Portland Session in 1905, there were registered 1,680 physicians. It is reasonable to believe that the registration at the 1929 Portland Session will be more than 5,000 physicians. Judging from the preliminary demand for hotel reservations, the session will be one of the most successful in the history of the organization; the programs of the sections indicate the usual high degree of merit, and the Scientific Exhibit is exceptional and will give to those who attend the meeting a survey of recent progress in medicine such as can be had in no other place. The work of the American Medical Association itself will be revealed in a series of exhibits indicating the personal service rendered by the headquarters office to the individual physician.

The organized medical profession is confronted today with problems of its relationship to the public and of the control of commercialized, subsidized and mechanized medical practice that are as critical as any problems that have ever confronted this body. No doubt the discussions in the House of Delegates at the Portland Session will reflect the considerations of these important problems.

At the Portland Session, foreign physicians are guests in several sections and are contributing work of importance. The list includes: From England, Sir Thomas Oliver, noted authority on industrial diseases. From Germany, Prof. Josef Jadassohn, a leader in dermatology; Prof. Ernst Freudenberg, recognized as an authority in pediatrics, and Prof. Alexander von Lichtenberg, who will appear before the Section on Urology. From Italy, Prof. Giuseppe Caronia, whose work on the causation of measles and scarlet fever has attracted world-wide attention.

The Portland Session offers opportunity such as do sessions in few other places in the United States for the combining of attendance at an important medical meeting with a vacation in the midst of the most glorious scenery that is available anywhere in the world. In this issue of THE JOURNAL appears a description of the facilities not only of Portland itself for entertainment but also of some of the surrounding parks, mountains and vacation resorts. The programs of the scientific sections and of the Scientific and Technical Exhibits merit the attention of every physician who wishes to keep in touch with the questions that are interesting the medical profession, whether or not he plans to attend the session. These lists are inspiring. They should create in the mind of every reader a desire to participate.

THE USES OF INCREASING LEISURE

In a report on national vitality prepared twenty years ago by Irving Fisher[1] of Yale University for the National Conservation Commission, the reader was reminded on the basis of the conditions existing at that time that whatever diminishes poverty or increases the physical means of welfare has the improvement of health as one of its first and most evident effects. Therefore, the report adds, an important method of maintaining vital efficiency is to conserve our natural resources—our land, our raw materials, our forests and our water. Only in this way can we obtain food, clothing, shelter and the other means of maintaining life. Conversely, the conservation of health will tend

1. Bulletin of the Committee of One Hundred on National Health, Being a Report on National Vitality, Its Wastes and Conservation, number 30. Washington, Government Printing Office, July, 1909.

in several ways to the conservation of wealth. First of all, the more vigorous and long-lived the race, the better utilization can it make of its natural resources. The labor power of such a race is greater, more intense, more intelligent and more inventive.

In 1900, many writers were deeply concerned about the future of our food supply. The rapid growth of population and the decrease in available arable land raised the specter of the struggle for existence, if not actual famine. In a presidential address to the British Association for the Advancement of Science in 1898, Sir William Crookes uttered the ominous warning that "should all the wheat-growing countries add to their [producing] area to the utmost capacity, on the most careful calculation the yield would give us only an addition just enough to supply the increase of population among bread eaters till the year 1931." [2] The date has almost arrived but the outlook has lost all the gloomy aspects of Crookes' prognostications. The efficiency in food production has exceeded all expectations. Machinery has come to our aid in manifold, marvelous ways. Thus wheat, which represents the raw material for about a third of our total energy food, is today produced with unanticipated efficiency. Each bushel represents about thirty minutes of man labor. This means, as Swanson [3] has recently estimated, that two and one-half hours of man labor efficiently spent in wheat raising produces one third of the raw materials for the total energy food consumed by an average adult person in a year. In other words, if all raw materials for food could be produced as efficiently as wheat, seven and one-half hours of man labor would produce this raw material required for one adult in one year. But since the saying "Man shall not live by bread alone" is true physically as well as spiritually, there is another story to the production of raw materials needed for human food.

Despite this reservation, the problem of sustenance has lost its menacing aspect in this country. The recently released report of the Committee on Recent Economic Changes of the President's Conference on Unemployment [4] presents an unanticipated outlook, on the basis of the fact-finding survey of its distinguished members. The committee finds that as a people we have become steadily less concerned about the primary needs, food, clothing and shelter. We have long since lost all fear concerning our food supply, and so we no longer look on food as a luxury or as a primary source of pleasure. American food standards have risen, but we hear little of the "high cost of living"; the slogan of the "full dinner pail" is obsolete.

One outcome of this is that the rapidly increasing number of families in the United States having a considerable margin of earnings available for "optional consumption"—optional in the sense that this portion of the income may be saved or spent, and if spent the manner of its spending may be determined by the tastes of the consumer or the nature of the appeals made to him by the industries competing for his patronage—presents one of the marked characteristics of the recent economic situation. The gap between the relatively stable cost of living and the rising wages presents some interesting consequences. The food fuel intake per person, approximating an average of less than 3,000 calories a day, cannot be increased without meeting physiologic obstacles. A limit to the expenditure for food is thus set by the nature of man's bodily needs, aside from comparatively small variations incident to the selection of the less staple foods that may be somewhat more costly than the usual dietary ingredients. The major increases in expenditure of the increased incomes are for goods and services. For these the leisure that has resulted from an augmented man-hour productivity creates new needs.

From the standpoint of health, the use of this increasing leisure involves lessened fatigue, more outdoor life, and greater indulgence in physical exercise in the form of sports of all kinds, as well as other indulgences that may make for personal well being or the reverse. It may help to preserve better mental balance in our population or, if wrongly used, may increase the number of the psychically unfit. Increasing leisure presents a new series of problems, some of which belong in the domain of personal hygiene, preventive medicine, and even traditional medical practice.

2. Mendel, L. B.: Changes in the Food Supply and Their Relation to Nutrition, New Haven, Yale University Press, 1916.
3. Swanson, C. O.: Wheat Flour and Diet, New York, Macmillan Company, 1928.
4. The full text of the committee report was published in the New York Times, May 15, 1929, page 22, and presumably in other newspapers and periodicals. Some of our statements are quoted verbatim.

THERMAL EXCHANGES BETWEEN THE BODY AND ITS ENVIRONMENT

Everyday clinical experience bears witness to the conclusion that departures from the so-called normal body temperature are among the fundamental physical signs of disease. The invariable use of the clinical thermometer attests its importance. It has become imperative, therefore, to understand the laws that govern the maintenance of temperature equilibrium in a body that is living ordinarily under widely fluctuating environmental temperatures while it may be experiencing considerable variations in internal heat production. As a recent writer has summarized the problem, energy is dissipated from the body as mechanical energy through work performed and, to a greater extent, as heat energy through radiation, convection and evaporation of moisture. Heat loss by radiation, convection or evaporation of moisture must necessarily be in accordance with well known physical laws. Radiation and convection depend on the temperature difference between the body and its environment, and also on the insulation or clothing worn. Evaporation depends on the amount of moisture on the body available for evaporation, the temperature and vapor pressure of the atmosphere, and the clothing worn.

The human body maintains temperature equilibrium in atmospheres of varying temperature and humidity by controlling heat production at low atmospheric temperatures and by modifying evaporation through control of available perspiration at high temperatures. This is the thesis promulgated most recently by a group of investigators [1] in the Research Laboratory of the American Society of Heating and Ventilating Engineers at the U. S. Bureau of Mines in Pittsburgh. Undoubtedly there is an increase of heat production in the body when the external temperature is decidedly lowered. Usually, if not always, this augmentation is due to enforced shivering. Indeed, the evidence is preponderant that, for a normal person, ingestion of food and muscular activity are the chief factors in the increase of the minimal or basal metabolism.

The Pittsburgh investigators have reminded us that, as would be expected from the physical laws governing the phenomena, heat transfer by radiation and convection is practically independent of relative humidity; it is a function of the difference between the temperature of the body and its environment. As the temperature of the body remains constant, it is a function of the temperature of that environment. In other words, heat loss by radiation and convection is practically independent of body control and a function of atmospheric conditions; and total heat loss in controlled and temperature equilibrium is maintained largely by controlling perspiration available for evaporation.

The importance of this control is all too little appreciated in relation both to the hygiene of clothing and to the problems of ventilation for comfort. In these days one hears much about the importance of "fresh" air. In most places of assemblage the attention to heat and moisture exceeds in significance the features commonly thought of as "freshness" or renewal of the atmosphere. Protection against cold can usually be secured by suitable insulation through clothing as well as by appropriate heating. On the other hand, as Houghten and his colleagues have remarked anew, the body loses control of heat dissipation at high temperatures, and the rate of heat loss falls rapidly behind the rate of heat production until, at an effective temperature approximately equal to body temperature, heat loss becomes zero. That this is a little above normal body temperature, or nearly 39.4 C. effective temperature, may be accounted for by the fact that in this hot atmosphere the body temperature soon rises above normal. Ordinarily, in health, through the heat-regulating center of the body the perspiration available is apparently so controlled that evaporation, within that range of temperatures where the body maintains equilibrium, is a function of dry-bulb temperature and complementary to heat loss by radiation and convection. When the nervous regulation fails, the ingenuity of the physician often is called into requisition.

1. Houghten, F. C.; Teague, W. W.; Miller, W. E., and Yant, W. P.: Thermal Exchanges Between the Human Body and Its Atmospheric Environment, Am. J. Physiol. **88**: 386 (April) 1929.

Current Comment

PROPOSED INCREASED TARIFF ON SURGICAL INSTRUMENTS

The tariff bill, as passed by the House of Representatives, provides for an increase in the tariff on surgical instruments from 45 per cent ad valorem to 70 per cent ad valorem. Relief from this threatened increase, and prevention of an increase in the price of surgical instruments that will surely follow an increased tariff, can come now only from the Senate. Physicians and hospitals desiring to protest against such increases should write or telegraph to Hon. Reed Smoot, Chairman, Committee on Finance, U. S. Senate, Washington, D. C. The makers of surgical instruments, who are primarily responsible for the proposed increase in the tariff, have laid great stress on the fact that hospitals are the chief purchasers of surgical instruments and have endeavored to create the impression that such institutions will be able, without embarrassment, to pay more for surgical instruments than they are now paying. Protests from hospitals may be expected, therefore, to carry great weight, particularly if accompanied by exact figures showing the hospital's financial condition in relation to the demands on it for services.

AMERICAN ANTHROPOMETRY

The measurements recently made of 30,000 American boys and girls [1] are of interest from several points of view. Since the children are from widely scattered districts and are all of "old American stock," that is, both parents and all four grandparents having been born in the United States, this study establishes a standard by which the composite American race may be compared with other national entities. It also establishes a standard from which in future years may be measured the trend of our racial growth. Are we growing larger or smaller, with greater or less lung capacity? In another ten or twenty years a second study of similar material will answer these questions. Meanwhile the investigation provides an interesting comparison in the rate of growth of boys and of girls. The girls begin to grow faster than the boys between the ninth and tenth years, which suggests that the speeding up of growth must be one of the earliest manifestations of puberty. At the time when the girls' growth is slowing down again, at about the thirteenth year, acceleration due to beginning activity of the sex glands is making itself obvious in the growth of the boys. At this age they grow much faster than their sisters and soon recover that ascendency in height and in chest circumference which for a few years they had lost. It is of interest to note that in vital capacity the girls never overtake the boys, although they approach the male measurements during the period of most rapid female growth. The girls, however, maintain their ascendency in weight after they have lost it in other respects.

1. Collins, S. D., and Taliaferro, C.: Physical Measurements of Boys and Girls of Native White Race Stock (Third Generation Native Born) in the United States, Pub. Health Rep. **44**: 1059 (May 3) 1929.

Association News

MEDICAL BROADCAST FOR THE WEEK

The American Medical Association Morning Health Talks and Evening Health Hints from Hygeia

The American Medical Association broadcasts daily at 10:45 o'clock in the morning, central daylight saving time, over Station WBBM (770 kilocycles, or 389.4 meters).

The program for the week of June 10-15, will be as follows:

June 10. "Poison Ivy," by Dr. James Nall.
June 11. "Headache," by Miss Lois Stice.
June 12. "Sanitation in the Laundry," by Dr. R. G. Leland.
June 13. "The War Against Physical Handicaps," by Dr. R. G. Leland.
June 14. "Sentenced to Thirty Days in a Contagious Disease Hospital," by Dr. R. G. Leland.
June 15. "The Conquest of Disease," by Dr. R. G. Leland.

Evening Health Hints from Hygeia at 8 o'Clock, Central Daylight Saving Time

June 10. Epilepsy.
June 11. Must Have Strong Heart for Aviation.
June 12. Health Creed for Teachers.
June 13. Raw or Pasteurized Milk.
June 14. Children May be Too Tired to Grow.
June 15. Putting Health Teaching into Practice.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

State Medical Election.—At the annual meeting of the California Medical Association, San Diego, May 8, Dr. Morton R. Gibbons, San Francisco, was made president; Dr. Lyell C. Kinney, San Diego, president-elect; Dr. Emma W. Pope, San Francisco, secretary, and Dr. Edward M. Pallette, Los Angeles, speaker of the house of delegates. The next meeting will be at the Hotel Del Monte, Del Monte, April 28-May 1, 1930.

Memorial to Dr. Brodrick.—A contribution of $1,000 has been received by Stanford University Medical School to start a memorial in honor of the late Dr. Richard G. Brodrick, superintendent of Stanford University hospitals, and formerly president of the American Hospital Association. The income will be used for clinic free beds. Further contributions in any amount will be gladly received and should be sent to Dr. William Ophuls, dean of the medical school, 2398 Sacramento Street, San Francisco.

Summer Graduate Instruction.—The University of California Medical School is giving courses for graduates in medicine at the school and at the University Hospital, San Francisco, June 3-29. The entire equipment is available for this work. The dean says that in the four years that these courses have been given, 141 students have been enrolled and some applicants rejected because of lack of accommodations. It is apparent that the courses fill a definite need and the opportunities offered graduates will be expanded as rapidly as possible, so that a larger number may attend.

Society News.—There are fifty-eight county health officers in California, according to *California and Western Medicine*, and thirty-nine of them are members of the California Medical Association.——The Los Angeles Obstetrical Society was addressed, April 3, by Dr. Earl M. Tarr on "Importance of Vitamin B in the Feeding of Nursing Babies" and by Dr. Jacob P. Green, Chicago, who presented a moving picture of "Face Presentation with Conversion and Later Forceps Delivery."——The Contra Costa County Medical Society was addressed, recently, at Martinez by Dr. Albert H. Rowe, Oakland, on allergy.——The San Diego Academy of Medicine was addressed in March by Dr. Arthur L. Bloomfield, San Francisco, on three successive evenings on gastric secretion.——The San Joaquin County Medical Society was addressed in April at Stockton by Chauncey D. Leake, Ph.D., professor of pharmacology, University of California Medical School, San Francisco, on "Recent Advances in Pharmacology."

ILLINOIS

State Medical Election.—At the annual meeting of the Illinois State Medical Society in Peoria, May 23, Drs. Frederick O. Fredrickson, Chicago, was made president; William D. Chapman, Silvis, president-elect; Rolland L. Green, Peoria, and Henry R. Krasnow, Chicago, vice presidents; A. J. Markley, Belvidere, treasurer, and Harold M. Camp, Monmouth, secretary. The meeting was one of the best, about 1,250 persons registering. The next meeting will be in Joliet in 1930, if suitable arrangements can be made.

Another Insurance Agent Gone Wrong.—A state warrant was issued, May 27, for the arrest of one August Schultz, alias G. Schultz, who has been working among physicians and others in Illinois pretending to be an agent for the World Insurance Company. He carries recommendations from physicians he claims to have insured. The World Insurance Company, Omaha, replied to an inquiry denying ever having had a man by that name in its employ. The company, which is not licensed to write insurance in Illinois, desires assistance in tracing this man. The states attorney, Homer Williams, Carthage, should be notified. Schultz is about 50 years of age, of medium height, and with high forehead, slightly Roman nose, dark pompadour hair streaked with gray, and gray eyes. He wore a metal ankle brace on his left leg from the foot to the knee, using it as a talking point for insurance against automobile accidents. He travels by train and bus, and has been in Quincy and Peoria.

Chicago

Annual Rush Alumni Banquet.—The faculty and alumni banquet of Rush Medical College will be held at the Auditorium Hotel, Tuesday, June 11, 6:30 p. m. The toastmaster will be Dr. Arthur Dean Bevan, chairman, department of surgery. Dr. Samuel R. Slaymaker, clinical professor of medicine, president, Rush Alumni Association, will give the presidential address on "Rush Alumni." Among the other speakers will be the new president of the University of Chicago, Robert M. Hutchins; Dean Ernest E. Irons on "The Future of Rush"; Mr. Alfred T. Carton, member, board of trustees, Presbyterian Hospital, on "The Presbyterian Hospital and Rush," and Julius Stieglitz, Ph.D., professor of chemistry, University of Chicago, on "Medical Education and Rush."

The Ranson Lecture.—It was announced, June 3, that George W. Walter has endowed for the Phi Beta Pi fraternity at Northwestern University Medical School an annual lecture in honor of Dr. Stephen Walter Ranson, director of the Institute of Neurology. The first Ranson lecture will be delivered in October by Dr. Gotthelf Carl Huber, professor of anatomy at the University of Michigan Medical School, Ann Arbor. Dr. Ranson was head of the anatomy department of Northwestern University Medical School from 1911 to 1924. He then became head of the department of histology and neuroanatomy at Washington University School of Medicine, St. Louis. Last year he returned to Northwestern as head of the Institute of Neurology.

IOWA

State Medical Election.—At the seventy-eighth annual session of the Iowa State Medical Society Dr. John H. Peck, Des Moines, was made president; Dr. William A. Rohlf, Waverly, president-elect; Drs. Gordon F. Harkness, Davenport, and William W. Bowen, Fort Dodge, vice presidents; Dr. Robert L. Parker, Des Moines, treasurer, and Dr. Tom B. Throckmorton, Des Moines, secretary. The next annual meeting will be at Marshalltown, May 14-16, 1930.

Society News.—The Calhoun County Medical Society recently met with representatives of the farm bureau, federated women's clubs, the schools and other lay organizations to discuss public health activities, following a banquet given by the society.——Dr. Charles Ryan, Des Moines, addressed the Greene County Medical Society recently, at Jefferson, on cancer.——The Linn County Medical Society, Cedar Rapids, was addressed, April 11, by Dr. Andrew H. Woods, director, Iowa State Psychopathic Hospital, on "Knowledge of Emotional Disturbances Useful to the General Practitioner."——Dr. Anatole Kolodny, Iowa City, addressed the Polk County Medical Society, recently, on "Surgical Relief in Terminal Stage of Cancer," and Dr. Norman F. Miller, Iowa City, on cancer.——Dr. Albert H. Montgomery, Rush Medical College, Chicago, addressed the Pottawattamie County Medical Society, April 23, Council Bluffs, on "Tannic Acid Treatment of Burns."——The Des Moines Academy of Medicine was addressed, April 26, by Dr. Morris Edward Davis, Chicago, on "Motion Pictures in Obstetrics."

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MARYLAND

Automobile Coroner Appointed.—Governor Ritchie has appointed Dr. Germanus J. France, Baltimore, automobile coroner under the terms of the new law which provides that a separate coroner will conduct investigations of deaths due to automobile accidents.

The Baltic Party.—At the conclusion of the World War, 107 officers and aides of General Pershing and his staff formed an organization known as "The Baltic Party," from among those who sailed for France with the general on the *Baltic*, May 18, 1917. The party was entertained at dinner, May 28, by Dr. Hugh H. Young, Baltimore.

Hospital News.—Dr. William A. White, St. Elizabeth's Hospital, Washington, D. C., gave the principal address at the dedication of the reception building at the Sheppard and Enoch Pratt Hospital, Towson, May 18. The new building combines the diagnostic center with special features for treatment and clinical research, while there is also provision for outpatient activities and a child guidance clinic. A buffet supper and dance followed the reception.

Influenza and Pneumonia Were High in Baltimore.—A tabulation prepared by the U. S. Department of Commerce indicates that the Baltimore mortality rate from influenza and pneumonia during the last winter exceeded that for the country as a whole. The influenza rate in Baltimore from November 3 to March 30 was 77.9 per hundred thousand of population, and for the country, 77.3. Baltimore's pneumonia death rate for this period was 289.4 per hundred thousand, figured on an annual basis while 222 per hundred thousand was the average for the country.

Personal.—Dr. and Mrs. Charles W. Whaland of Chestertown celebrated their golden wedding anniversary, April 24. ——Raymond Pearl, Ph.D., director, Institute for Biological Research of Johns Hopkins University, has been awarded the decoration of Officer of the Crown of Italy.——Dr. Lewellys F. Barker, professor emeritus of medicine, Johns Hopkins University School of Medicine, Baltimore, has been elected chairman of the medical council of the U. S. Veterans' Bureau to succeed Dr. Ray Lyman Wilbur, who is now secretary of the interior.——Dr. Hilary T. Willis has been reelected mayor of Hyattsville.

Gynecologic and Obstetric Dinner.—Physicians en route to the American Gynecological Society meeting at Old Point Comfort, Va., stopped off in Baltimore, May 18, to attend a dinner inaugurating the new Gynecological and Obstetrical Society of Baltimore, the president of which is Dr. Emil Novak. Among those speaking were Drs. Arthur H. Curtis, professor of gynecology, Northwestern University Medical School, Chicago, on "Special Features of Pelvic Infections"; Benjamin P. Watson, professor of gynecology and obstetrics, Columbia University College of Physicians and Surgeons, New York, "What Can We Do to Improve Our Present Maternal Mortality Rate?" and Carl G. Hartman, Ph.D., of the Carnegie Institute of Embryology, "Observations on Eighteen Pregnancies in the Carnegie Monkey Colony," illustrated by motion pictures. Membership in the new society is open to members of the Baltimore City Medical Society whose primary interest is in gynecology and obstetrics

MASSACHUSETTS

Society News.—Dr. Charles E. Mongan addressed the annual meeting of the Plymouth District Medical Society, Plymouth, April 18, on "The Entrance of Business Men in the Practice of Medicine"; among other speakers were Drs. Edward J. Denning, John W. Bartol and Walter P. Bowers, Boston. The annual oration was given by Dr. Ralph C. McLeod, Brockton, on "Pathologic Physiology of Acute Appendicitis."

Hospital News.—The Boston Lying-In Hospital has started the construction of a new wing which will practically double its capacity and will be completed about next January at a cost of more than $900,000.——The Newton Hospital, Newton, has completed a new $1,500,000 building. The new building accommodates 130 patients, is five stories high and was built largely with donations by the public. The Newton Hospital has been in operation since 1886.

Harvard Scholarships Awarded.—Among thirty-eight scholarships and fellowships awarded by Harvard University in April are the following pertaining to the medical school:

Charles Sedgewick Minot Fellowship—Monroe D. Eaton, Jr., Stockton, Calif.

De Lamar Student Research Fellowships—Harry Beecher, Wichita, Kan.; Liddell S. Davis, Dallas, Texas, and Charles W. Steele, Chillicothe, Mo.

James Jackson Cabot Fellowships—Lewis S. Pilcher 2d, Montclair, N. J., and Champ Lyons, Mobile, Ala.

George Cheyne Shattuck Memorial Fellowship—Hugh Montgomery, Woods Hole, Mass.

John Ware Memorial Fellowship—William P. Read, Milwaukee.

Charles Eliot Ware Memorial Fellowship—Earl R. Lehnherr, Sabetha, Kan.

Licenses Revoked, Restored and on Probation.—At a meeting of the Massachusetts Board of Registration in Medicine in Boston, May 2, the board voted as follows:

Dr. Edward F. Gleason of Boston, charged with gross misconduct in the practice of his profession as shown by his alleged treatment to produce an illegal abortion. Dr. Gleason was placed on probation for one year.

Dr. Harvey A. Field of Mattapan, charged with gross misconduct in the practice of his profession as shown by his alleged agreement to perform an illegal abortion. Voted unanimously that Dr. Field's registration be revoked.

Dr. Harry D. Gafney of Ware and Dr. Christopher J. Carr of Framingham, charged with failure to file proper birth returns, were placed on probation for one year.

The registration of Dr. Wallace P. MacCallum was restored with an unlimited probationary period.

Plan to Lower Cost of Sickness.—The Julius Rosenwald Fund of Chicago announces that it will aid the Massachusetts General Hospital, Boston, to reduce the cost of medical care to persons of moderate means. The staff of the hospital and the trustees, it is said, have agreed to set medical fees and hospital charges at rates well below those now paid in private rooms. The medical staff initiated a schedule of fees at moderate rates and asked that the hospital act as its agent to collect these fees. The service will be rendered in the Baker Memorial Building, a 300-bed section of the hospital under construction. The rates including nursing service will be from $4 to $6.50 a day. The Julius Rosenwald Fund has appropriated $150,000 to pay a part of the deficit which is expected to be incurred until the beds are fully occupied; later the Baker Memorial Building is expected to be self-supporting.

MICHIGAN

Society News.—The Michigan State Medical Society and the graduate department of medicine of the University of Michigan have arranged graduate courses in serology and roentgenology, medicine, surgery and clinical anatomy at the Receiving Hospital, Detroit, and the University Hospital, Ann Arbor, to be given from May 27 to June 22.—— Dr. Hugh Cabot, dean, University of Michigan Medical School, Ann Arbor, addressed the Washtenaw County Medical Society, May 28, on "The Choice of Anesthetic."

Charles J. Ross, Alias Dittrich, Fined.—According to the papers a man going under the name of Dr. Raymond J. Dittrich but, in fact, Charles J. Ross, was recently arrested in Flint on a charge of practicing medicine without a license. He was fined $100 and costs following a plea of guilty. Ross, under the assumed name, was employed in the roentgen-ray department of the Hurley Hospital for a time. He obtained credit for office rent but was being sued for it to the extent of several hundred dollars. The files of the American Medical Association indicated that one Charles Ross in 1928 assumed the name of Raymond J. Dittrich and attempted to operate a hospital at Pine River, Minn. The original Dr. Dittrich, a practitioner in another state, is in no way connected with the scheme attempted. Ross had no license to practice in Minnesota. Years previously, he was employed in the pathology department of a clinic there. He came back to Minnesota a second time from New Jersey, claiming to be a doctor of medicine. But he had no credentials of any kind. Ross is said to be foreign born, about 41 years of age, dark, about 150 pounds in weight, and 68 inches tall

MINNESOTA

The Alvarez Lecture.—At the recent annual meeting of the American Gastro-Enterological Association, Atlantic City, Dr. Frank Smithies, Chicago, donated a fund the proceeds of which assure an income of $100 a year to the association for the purpose of securing a guest speaker in research work annually. The lecture is to be named in honor of Dr. Walter C. Alvarez, who is associate professor of medicine, University of Minnesota Graduate School of Medicine, Rochester, and previously was assistant professor of research medicine at the University of California Medical School.

Symposium on Physiology and Biochemistry.—The University of Minnesota Medical School and the Mayo Foundation will conduct a symposium on physiology and biochemistry, July 15-August 15, at Minneapolis and Rochester. Many of the speakers will be foreign scientists en route to the International Physiologic Congress in Boston, August 19-23. They are: Prof. M. von Frey, director of the Physiological Institute,

Würzburg, Germany; Prof. Otto Meyerhof of the Kaiser-Wilhelm Institute for Biology, Berlin, Germany; Prof. T. Thunberg of the University of Lund, Sweden; Prof. G. Anrep, Cambridge, England; Prof. E. Laquer of the University of Amsterdam, Holland, and Professor Waldschmidt-Leitz, Prague, Czechoslovakia. Each guest scientist will deliver several lectures in English and conduct seminars and be available for consultation. No fees will be charged. Physicians, biologists, chemists and others are invited.

MISSOURI

Society News.—Washington University School of Medicine, St. Louis, has received $10,000 from the Milbank Fund, New York, for experimental work on infantile paralysis, which will be carried out under the direction of Prof. Edmund V. Cowdry, Ph.D.——The St. Louis Medical Society was addressed, May 21, by Drs. Clarence H. Crego, Jr., on "Transplantation of Biceps to Replace Paralyzed Quadriceps in Cases of Infantile Paralysis"; LeRoy C. Abbott, "Arthrodesis for Treatment of Tuberculous Disease of the Hip"; Alfred O. Adams, "Best Functional Position for an Ankylosed Hip," and John A. Key, "Correction of Severe Deformities of Extremities."——Major John R. Hall, Medical Corps, U. S. Army, addressed the St. Louis Medical Society, May 28, on "Typhoid Fever and the Vacationist"; Dr. Vilray P. Blair gave a moving picture demonstration of the repair of single harelip.

Rare Obstetric Textbook.—Dr. Joseph L. Miller, Thomas, W. Va., addressed the Jackson County Medical Society, Kansas City, May 21, on "The Book of the Art of the Midwives, or Godmothers." Dr. Miller came to Kansas City from Rochester, Minn., where he gave two historical addresses. He has a large collection of rare medical books. The subject of his address is the first Spanish book on obstetrics written in 1528. There was but one edition and there are said to be only three known copies now extant. The Jackson County Medical Society was addressed at this time also by Dr. LeRoy Crummer, Omaha, on "The Crumbs That Fell from the Rich Man's Table," being a discussion of the acceptance of the great medical discoveries of the past into the minds of the people. Dr. Ernest C. Fishbaugh, Los Angeles, gave an address on "The Colon in Relationship to Chronic Arthritis."

NEW YORK

The Cinema Employs a Psychologist.—Universal Pictures Corporation has appointed William M. Marston, Ph.D., formerly lecturer in psychology at Columbia University and New York University, to be director of public service of the corporation. The purpose, according to *Science*, is to apply psychology to every branch of the motion picture industry, from the selection of stories to final sales and exploitation of pictures.

Malpractice Suits Last Year.—The counsel of the Medical Society of the State of New York, in his report to the house of delegates for the year ending February 28, states that 168 new malpractice suits were instituted during the current year as against 177 for the previous year; 171 suits were disposed of as compared with 126 during the previous year. Of the 171 disposed of, 100 resulted in dismissal of the complaint, discontinuance of the action or a verdict for the defendant; sixty-six were settled and in only five, or less than 3 per cent of the total of 171, were charges rendered for the plaintiff.

Personal.—Dr. George H. Whipple, dean and professor of pathology of the University of Rochester School of Medicine and Dentistry, was elected a member of the National Academy of Sciences at the annual meeting in Washington in April.——Dr. Harry A. Steckel, director of clinical psychiatry at the Binghamton State Hospital, has been appointed superintendent of the Newark State Hospital.——Dr. William C. Jensen, formerly superintendent of the Rocky Crest Sanatorium, Olean, has been appointed superintendent of the new Oneida County Tuberculosis Sanatorium at Utica, which will be opened this month. Dr. Jensen, since 1927, has been superintendent of the Westmount Sanatorium, Glens Falls.

Careless Driving and Automobile Accidents.—In 1906 there were sixty-six deaths in New York due to automobiles, and in 1927 the number was 2,555. A study has been made of the intervening period by Joseph V. DePorte, Ph.D., of the state department of health. He believes that the main cause of automobile accidents is careless driving. Traffic regulations in cities are becoming more efficient, but when drivers get through these congested streets into open country the tendency is to "let 'er go," and the effects of this release from enforced caution is seen in comparative rates of accidents. Automobile deaths, in the state, excluding New York City in 1927, represented 2.1 per cent of all deaths in the state, while in New York City they represent only 1.6 per cent of all deaths. The corrected rate of fatal accidents in the rural areas is much higher than is the rate in the cities. The published accounts of fatal accidents usually credit the death to the place where the victim died. Dr. DePorte corrected these figures with regard to the place where the accidents occurred, thus showing that the rural rate exceeds the urban rate.

New York City

Columbia Sends Out Anatomy Expedition.—Columbia University has organized an expedition to Africa to obtain specimens of gorillas for anatomic and anthropologic study. The anatomy department of the College of Physicians and Surgeons is cooperating in this enterprise with the comparative anatomy department of the American Museum of Natural History. The party, which sailed from New York, May 29, will obtain equipment in Europe and then will proceed through the Red Sea to Dar-es-Salaam, East Africa. It will probably go on to the Kivu Plateau, the tributaries of the Congo River and the West Coast, returning early next year. The Belgian and French governments sanctioned the effort to obtain specimens of gorilla. Among others on the advisory committee are President Butler of Columbia, and Dr. William Darrach of the medical college. The party, which will be led by Henry C. Raven of the museum, will include William K. Gregory, Ph.D., professor of vertebrate paleontology at Columbia; James H. McGregor, Ph.D., professor of zoology, and Earl T. Engle, Ph.D., assistant professor of anatomy at the College of Physicians and Surgeons.

Charity a Small Part of Welfare Work.—The Charity Organization Society, New York, has issued a directory of social agencies in cooperation with the Welfare Council of New York City and twenty-one other organizations. The directory lists more than 300 organizations and institutions engaged in family welfare work. Many people still think of social work as "charity" or "relief," but the new directory shows that only eighty of the more than 1,100 social agencies of New York City are relief societies. Among other family welfare organizations are six organizations seeking to promote better housing; twenty-three to help the homeless; ninety-two old folks' homes and other agencies for the care of the aged; eleven legal-aid services, fifty agencies to help immigrants, foreign-born and travelers, and seventy-nine protective and correctional agencies for adults. Many of the 470 New York City agencies engaged in some form of child welfare are also doing health work, family welfare or recreation, education and neighborhood activities. The directory gives some idea of the magnitude of the city's health problem by listing its 263 hospitals and 1,410 clinics in addition to 112 baby health stations, twenty-seven nursing services, sixty-seven institutions for convalescent care, 146 services for mental hygiene and thirty-six health administrations and education organizations. The directory indicates, the announcement says, that New York is the social work capital of the world, 283 national and international welfare agencies having headquarters here, with some 6,000 persons having connections with the welfare agencies as executives, board members and other officers. The welfare council itself is made up of more than 700 organizations.

OHIO

Expression of Sympathy from Poland.—The charge d'affaires of Poland at Washington, D. C., has been requested by the Supreme Medical Chamber in Poland to express through the American Medical Association deep sympathy to its American colleagues in the sorrow caused by the Cleveland Clinic disaster.

Dr. Baldwin Honored.—About 100 members of the General Practitioners' Medical Society gave a testimonial dinner, May 23, at Columbus in honor of Dr. James F. Baldwin in recognition of his long service as a member of the society and to the profession. An oil portrait of the guest of honor was presented, the presentation speech being made by Dr. Andre Crotti. Dr. Baldwin, who recently passed his seventy-ninth birthday, has been a member of the General Practitioners' Medical Society more than twenty years. Dr. Baldwin graduated from Jefferson Medical College in 1874.

Oldest and Last Eclectic Medical College Closes.—After about eighty-five years of existence, the Cincinnati Eclectic Medical College graduated its last class, May 20. Thirty-four degrees were conferred. The dean, Dr. Rolla L. Thomas, gave the official farewell in the presence of hundreds of alumni of the school who are engaged in practice. The decision to close is said to have been made after the consideration of the fact that a fund of about $1,500,000 would be necessary to meet present-day requirements in the way of

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modern teaching plant, organization, maintenance and equipment. Eclecticism originated in New York City in 1828 with Dr. Wooster Beach, who established the Reform Medical College, which later moved to Worthington, Ohio, moving again in 1843 to Cincinnati. The name was changed to Eclectic Medical Institute two years later, and to Eclectic Medical College in 1910. This is the last bona fide eclectic medical college in the United States.

Personal.—Dr. Lewis K. Maxwell, Toledo, was presented with a silver pitcher by the staff of Mercy Hospital, Toledo, on the occasion of his golden wedding anniversary, April 15. ——A plaque was unveiled at St. Vincent's Hospital, Toledo, May 12, in memory of the late Dr. William W. Coldham, who was chief of staff of the hospital for many years.——Dr. Wilbur K. Black, Groveport, has been elected to the Franklin County Board of Health for a five year term.——Dr. Harry E. Welch entered his thirty-seventh year as health officer of the city of Youngstown, May 12.——Dr. Clayton S. Emery, Kenton, will join the staff of the St. Joseph Sanitarium, St. Joseph, Mich., July 15.——Dr. René Leriche, professor of surgery, Strasbourg, France, has been conducting the clinics and classes of Dr. Elliott C. Cutler, professor of surgery, Western Reserve University School of Medicine, Cleveland, for two weeks, lecturing in French with Dr. Cutler as interpreter. Dr. Leriche will receive the honorary degree of doctor of science from Harvard University this month.

PENNSYLVANIA

Licenses Revoked.—The state board of medical education and licensure, Harrisburg, reports that the license to practice of Dr. Charles N. Van Sickle, Oakdale, was revoked, March 28, following his conviction in the courts of having committed abortion. Dr. Van Sickle is said to be confined in the Western Penitentiary. The board reports also that the license of Dr. Harry Howard Hoffman, Ashley, was revoked, Dec. 13, 1928. He is said to have been convicted of second degree murder and sentenced to the penitentiary. His appeal for a new trial was refused by the courts. In March, at the time of this report, he was serving sentence.

Philadelphia

Another Hospital Merger.—The Woman's Hospital of Philadelphia and the West Philadelphia Hospital for Women, following a joint meeting of their boards, made application, May 22, for a charter to merge. The women's hospital building, which has been at 2137 North College Avenue for sixty-eight years, will be disposed of, and a new hospital on the site of the West Philadelphia Hospital, 4035 Parish Street, will be erected.

Report on Health Survey.—Dr. Haven Emerson, New York, who for several months has been supervising a hospital and health survey of Philadelphia, made a report of the results at a luncheon meeting, May 20. Dr. Emerson said that while there are adequate facilities for general hospital cases, there is an immediate need for 2,753 more beds for mental patients and that the number of beds for chronic cases and convalescents should be more than doubled.

Award to Drs. Kern and Schenck.—The American Laryngological Association at the Atlantic City meeting made its annual award of the Casselberry prize to Drs. Richard A. Kern and Harry P. Schenck for research done at the University of Pennsylvania Medical School on determining the relative efficiency of the clinical and roentgenologic methods of diagnosing sinus disease. The award was established by the association in memory of the late Dr. William E. Casselberry of Chicago.

TEXAS

Dr. Flickwir Goes to Fort Worth.—Dr. Arthur H. Flickwir of Houston has been appointed director of the department of public health and welfare of Fort Worth. Dr. Flickwir has been head of the health department of Houston since 1920. He will succeed Dr. Ernest W. Prothro, who has been acting head of the Fort Worth department since Dr. Leon H. Martin resigned in January. Dr. Prothro will remain as first assistant.

Society News.—Dr. Joseph D. Becton, Greenville, addressed the Grayson County Medical Society, Denison, March 12, on "Differential Diagnosis in Appendicitis," and Dr. Albert S. McBride, Greenville, on "Mental Symptoms in Relation to General Medicine."——The Southern Clinical Society held its inaugural meeting at Dallas, May 8, and was addressed, among others, by Dr. Edward H. Skinner, Kansas City, Mo., on "The Bleeding Uterus: Its Significance and the Values of Radium Therapy."——Dr. James O. Wharton, McAllen, was elected president of the Lower Rio Grande Valley Medical Association at a meeting in Harlingen, May 9.

Personal.—Dr. Benjamin M. Primer, New Iberia, La., has been appointed health officer of Cameron County.——Dr. William B. Center, Wink, has been appointed health officer of Winkler County.——Dr. Harry O. Sappington, Galveston, formerly state health officer, has been placed in charge of the outpatient department of the U. S. Public Health Service in that city. Dr. Sappington is a former mayor and health commissioner of Galveston.——Dr. Joseph Kopecky, professor of clinical pathology and clinical medicine, University of Texas School of Medicine, Galveston, has been named exchange professor of the university to the University of Mexico, where he will teach a course in tropical diseases.

Texas Summer Clinics.—The state journal of medicine presents the programs for the summer clinics for graduates given at the University of Texas, Galveston, June 3-15, and at Baylor University College of Medicine, Dallas, May 27-June 8. They include a wide variety of subjects. When the state medical association several years ago considered an effort to keep Texas physicians informed as to advances, the two medical colleges consented to undertake the task. These annual clinics are the result, and they have become popular. They are so inexpensive that practitioners cannot afford to miss them. The medical association in adopting this plan contemplated extending it into the communities, whereby teachers from the universities would organize with physicians in the larger cities for a few days teaching in each place. Eventually the communities were to take over the teaching entirely. No effort has been made to do this, the state medical journal says, by either medical school. However, Dallas, Houston, Fort Worth, San Antonio and El Paso have conducted clinics on several occasions.

GENERAL

Medical Bills in Congress.—H. R. 2667, the tariff bill, has passed the House, retaining the proposed increased duty on surgical instruments. S. Res. 79, introduced by Senator Harris, Georgia, proposes the appointment of a special committee of five senators to investigate the means and methods whereby the federal government may aid in discovering a cure for cancer. S. 174, proposing to establish a branch home of the National Home for Disabled Volunteer Soldiers in one of the southeastern states, has passed the Senate. This bill originally proposed that the branch home be established in Florida. S. 1226, introduced by Senator Blaine, Wisconsin, proposes federal financial aid for Indians who are blind or blind and deaf. H. R. 3395, introduced by Representative Fish, New York, proposes to authorize the commissioner of prohibition to pay for information concerning violations of the narcotic laws of the United States. H. R. 3398, introduced by Representative Hughes, West Virginia, proposes to amend the World War Veterans' Act so as to provide that statements from competent physicians diagnosing a disability as tuberculosis shall be accepted as proof in the absence of sputum or roentgen-ray examinations.

Surgical Conference at Honolulu in August.—The Pan Pacific Surgical Conference, twice noted in THE JOURNAL, to be held in Honolulu, August 14-24, under the auspices of the Pan Pacific Union, has about completed its program. All countries, states and nations bordering on the Pacific will send delegates. The program of entertainment includes the governor's reception at the Royal Hawaiian Hotel, a Hukilau (an old Hawaiian custom of drawing in a half mile long net from the sea and then feasting on the fish caught), trips to the sugar and pineapple industries, an oriental night put on by the Japanese, Chinese and Koreans, interisland steamer trips, and the official feast (Luau) at Waikiki beach. The honorary presidents of the conference include the presidents or prime ministers of a number of countries. The general chairman in Honolulu is Dr. Nils P. Larsen. The general chairman for the United States is Dr. George Swift, Seattle. Those who have accepted places on the program make a long list. No routine clinics are to be held, but any one who has a new technic will be given an opportunity to demonstrate it. Dry clinics and case presentations are to be encouraged before 8:30 each morning. A special clinic on leprosy will be held at the Kalihi Leprosarium. All but one afternoon will be left free for entertainment. The evenings will be occupied with papers, public lectures and entertainment. (THE JOURNAL, Oct. 13, 1928, p. 1117; Dec. 8, 1928, p. 1815.)

Society News.—The Travel Study Club of American Physicians will exhibit films taken during last year's trip through Central Europe and Spain at its twelfth annual meeting, July

11, 1 p. m., at the Congress Hotel, Portland, Ore.——At the annual meeting of the American Gynecological Society, Old Point Comfort, Va., May 21, Dr. Charles C. Norris, Philadelphia, was elected president, and Dr. Floyd E. Keene, secretary, reelected.——The American Home Economics Association will hold its twenty-second annual meeting at Boston, July 1-5. The chairman of the local committee is Gladys B. Jones. Headquarters will be at the Hotel Statler.——Dr. Lewis A. Coffin, New York, was elected president of the American Laryngological Association at the annual meeting in Atlantic City, May 22.——The International Conferences for the Investigation of Vivisection held a semiannual meeting in New York, May 6; the *New England Journal of Medicine* says that 119 societies in the United States and Canada were represented.

Convention for Revision of Pharmacopeia.—The eleventh decennial convention for the revision of the Pharmacopeia of the United States of America will meet in Washington, D. C., May 13, 1930. The constitution of the convention provides that the members of the convention shall be delegates elected by the following organizations:

Incorporated medical colleges, and medical schools connected with incorporated colleges and universities.
Incorporated colleges of pharmacy, and pharmaceutical schools connected with incorporated universities.
Incorporated state medical associations.
Incorporated state pharmaceutical associations.
American Medical Association.
American Pharmaceutical Association.
American Chemical Society.
National Association of Retail Druggists.
National Association of Boards of Pharmacy.

Section 2 of the constitution provides that the surgeon generals of the United States Army, Navy and Public Health Service, the secretaries of agriculture and of commerce, the Association of Official Agricultural Chemists, the Association of American Dairy, Food and Drug Officials, the National Wholesale Druggists Association, the National Dental Association, the American Drug Manufacturers' Association, the United States Division of Customs and the University of Havana, and organizations not here named which were admitted to representation in the convention of 1900, shall be members of the corporation. Each branch of the United States government above mentioned shall be entitled to three delegates. The president of the convention is Dr. Reid Hunt, Boston; the secretary, Dr. Lyman F. Kebler, 1322 Park Road, N. W., Washington, D. C.

Old People's Homes.—The study of homes for the aged made by the U. S. Bureau of Labor Statistics covered thirty-nine homes supported by nationality groups and some by fraternal organizations; two are run by groups of British ancestry; twelve each by Scandinavians and Germans; one each by Scotch, Swiss, Mexicans and French; three by Hollanders, and two by Bohemians. The capacity of thirty-four homes for which data were available totaled 2,024, but the average number of old people in residence in them aggregated only 1,850. The Swiss Home for the Aged at Mount Kisco, N. Y., founded in 1873, was the first of this kind to be established. More than three fourths of these homes have been in operation ten years or more. The cost of operation is a constant problem. To provide funds, there are usually entrance fees which by no means cover the expense, so tag days, bazaars, concerts and card parties are resorted to. The Scottish Old People's Home, Riverside, Ill., the British Old People's Home, Hollywood, Ill., and the Old People's Home of Chicago are endeavoring to raise an endowment. The per capita cost of operation, the bureau reports, varies from $201.47 to $979.17, the average for the group being $340.78. The report of the bureau of labor statistics covers also 350 homes which are not sponsored by any definite organization, but depend on private philanthropy. The homes in this class which reported have accommodations for more than 13,000 persons, but the average number in residence totaled 12,188. Sixty-five of these homes were in Massachusetts; sixty-two in New York; twenty-six in Pennsylvania; nineteen in Ohio; fifteen in Illinois; fourteen in California; thirteen in Michigan; twelve in New Hampshire; eleven in Maine, and ten each in New Jersey and Wisconsin. Many of these homes were established by the will of a deceased person many years ago. Their endowment generally has become inadequate, forcing them to seek additional funds. The per capita cost of operation in this group of homes varied from $118.30 a person to $2,290, the average being $468.75.

CORRECTION

"Sources of Ultraviolet Radiation and Their Physical Characteristics."—The article by W. W. Coblentz, Ph.D., in THE JOURNAL, June 1, which was published as a special article, should have been published under the head: Council on Physical Therapy.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 11, 1929.

The National Radium Fund

The attention of both the medical profession and the public is now fixed on the new hope which the advance of radium treatment offers for delivery from a dread and increasing scourge—death from cancer with all its possible sufferings. In a previous letter the necessity for an increased supply of radium was stated. An appeal for funds over the names of the presidents of the Royal Colleges of Physicians and Surgeons and other eminent members of the profession has been published. They point out that month by month it becomes more manifest that in the treatment of cancer radium is essential and that the profession is seriously hampered by the grievous insufficiency of the supply of radium in this country. The disease is not confined to those worn by age and debility but attacks vigorous men and women in the plenitude of their usefulness. Four thousand women, many of them mothers, die annually in England and Wales from cancer of the uterus. The signatories therefore appeal to the whole nation for the money necessary to purchase radium on an adequate scale. This they estimate as $1,250,000. The government promised to make a grant of $500,000 for every dollar subscribed up to a limit of $1,000,000. The answer to this appeal has been prompt. A special thank-offering fund opened for the king's recovery has by his wish been devoted to the London hospitals. An anonymous donor headed the thank-offering fund with the munificent sum of $500,000 and within a week a total of $1,600,000 was reached, of which $750,000 was contributed for the National Radium Fund, exceeding the sum asked for and sufficient to enable, with the government donation, the radium required to be purchased.

International Congress of Military Medicine and Pharmacy

The fifth International Congress of Military Medicine and Pharmacy has been held in London. It was attended by 750 delegates from forty nations and was opened by Sir Laming Worthington-Evans, secretary of state for war. Among the foreign delegates the United States was represented by Surg. Gen. H. S. Cumming. Sir Matthew Fell, director-general of the British army medical service, who presided, said that the congress originated in meetings of the consulting surgeons of the allied armies of the west. Tracing the history of military medicine, there was evidence at York and other places in Britain that the Roman legions 2,000 years ago had medical services, but not until the Napoleonic wars was any real advance made in the medical organization of armies. The war had accelerated the discoveries of medical science and to make this information as wide as possible the congress was held. The discussions ranged over the following subjects: 1. Evacuation of the sick and wounded by air: the rôle of the medical service in combined operations; reporting countries, Great Britain and France. 2. Tropical fevers of short duration; reporting countries, Great Britain and the Netherlands. 3. Injuries to blood vessels and their sequelae; reporting countries, Great Britain and Belgium. 4. Physical and chemical analysis of the glass and rubber articles employed by the medical services; reporting countries, Great Britain and Spain. 5. The standard of dental and physical fitness in the various military services; reporting countries, Great Britain and Cuba.

EVACUATION OF THE SICK AND WOUNDED BY SEA

Surgeon-Commander A. V. Elder said that for general purposes the best hoisting apparatus was a wooden cot tray—a lidless box suspended by wire slings and hooked on to a single-

fall winch wire from a derrick in the receiving ship. This took up too much room when ships' boats were used and then a bridle with a wooden spreader was useful. Military stretchers were best dealt with by Faulkner's canvas sling. He recommended a standard stretcher for all services. Patient and cot would thus travel from the front to the base hospital, each link in the transport chain having its complement of clean empty cots or stretchers to exchange for loaded ones. In trains, stretchers would be slung to the roof and semirigidly fixed to the coach walls. They could be transferred to ambulances without removing patients, saving time and suffering.

EVACUATION BY AIRPLANE

Group Capt H. V. Wells said that aircraft for ambulance carriage must be constructed on the hoop system and cross-bracing wires avoided, but a special stretcher might be carried on the fuselage. Air evacuation was quickest and most comfortable. It was particularly valuable when military operations were being carried out at a distance from the base, and in countries where transport by road, rail or water was difficult or almost impossible without a great deal of organization en route. The Great War had shown the importance of early treatment of wounds of the abdomen, head and chest. Unless such treatment was given during the first six to eight hours, the chances of saving life were proportionately decreased. Experience had proved that all types of cases could be taken by air. By air transport, central hospitals would in the future be able to deal with patients from wide areas, which would be a distinct saving in hospitals and staff. He described various types of aircraft and said that airplanes capable of accommodating a recumbent patient should be called "ambulance carriers." The most convenient type should be capable of carrying two or four recumbent patients and one hospital attendant. The stretcher of the future for air work would be a light metal one adjustable to fit all forms of ambulance transport. Aircraft employed solely on ambulance work should come under Red Cross protection.

In the exhibition a device for testing the flying aptitude of a novice attracted particular attention. Right and left arm movements and leg movements are tested separately and in combination. From the time taken to perform the various acts an idea is obtained whether the subject is likely to make an efficient pilot. Another apparatus shown is intended to ascertain whether a man is fit to perform aerobatics. The subject is seated in a chair which rotates ten times in twenty seconds. If this has little effect on eye muscles, pulse and blood pressure he is considered fit for stunts in midair.

Maternity and Child Welfare Services

Great progress has been made in the matters of tuberculosis, venereal disease, welfare of the blind, and maternity and child welfare. Last year gave the lowest death rate for both pulmonary and nonpulmonary tuberculosis. Eight per cent of the nonpulmonary cases occurred in children. In 1910 the deaths from tuberculosis were 500 per million of population; last year, only 173. In child welfare the results were the most striking of all. Last year the infant mortality was 65 per thousand, compared with 70 in the preceding one. An investigation was made with a view to getting a report of every maternal death that occurred in the country. An increase in the number of cases of mild smallpox was a remarkable feature of the last few years. In 1927 there were 14,000 such cases. So long as a large proportion of our population were unvaccinated there was a risk that might seem small today, but a really virulent type of smallpox would cause something like a panic. The number of cases of cancer was still on the increase and in spite of the amount of research we were not able to say that we had got down to the real cause of cancer or of the agencies that encouraged its development in the body. But in radium there is now a better method of treatment.

PARIS

(From Our Regular Correspondent)

May 1, 1929.

Leprosy in Marseilles

Since the time of the Phenicians there have always been cases of leprosy at Marseilles, which condition is practically inevitable for a large port that is the ordinary gateway between the Orient and France. But during recent years the number of cases has been increasing in a manner that is beginning to attract attention. In 1892, Zambaco and Boinet reported five cases. Perrin, in 1898, ferreted out eleven cases. In 1923, M. Paul Vigne found twenty cases. He thinks that today there are around forty cases. This increase appears to be due, more particularly, to the present lack of an adequate sanitary inspection at the frontiers. In fact, leprosy, which by the decree of 1921 was transferred to the maritime sanitary service, is no longer controlled by that service but is now, from the prophylactic point of view, left entirely to the municipal health services, through the application of the law of Feb. 15, 1902. The international convention of 1926 is mute on the subject of leprosy, and the minister of health, forestalling by his decree of October, 1927, any applications based on that convention, has deprived the sanitary service of all authority over leprous persons. Thus, in Marseilles, during the period between 1921 and 1927, all French or protected leprous persons were admitted, by right, into French territory, but they were admitted on the basis of acceptance of a yellow sanitary passport and were placed under the supervision of the prefect of the department in which they desired to take up their residence. If the patient was a foreigner, he was placed in the military hospital at Frioul, whence he was deported to his home country.

At present, the situation is entirely different. A person suspected of being leprous is turned over to the municipal health service, but the examination is not strict. The municipal authorities whose duty it is to take the necessary measures are lax in the fulfilment of their obligations. Dr. Paul Vigne, in his dermatologic service at the Ecole de médecine de Marseille, sees seven or eight new cases every year. In a recent communication to the Academy of Medicine, he stated that he knows personally twenty-six leprous persons, with fixed abodes among the population of Marseilles and subject to no supervision. Among this number, there are laborers sleeping in bunkhouses along with their comrades; restaurant and hotel waiters; a cook; a femme de chambre, and the like. These persons remain concealed for fear of being interned in a hospital. Even in the hospital, the thirteen leprous persons who are there at present are treated in the regular rooms of the dermatologic service, without isolation. All these patients are of foreign importation: Turks, Armenians, South Americans, Portuguese, Spaniards (particularly), and natives from the colonies, or soldiers coming from the Far East, Oceania, Madagascar, Senegal, Morocco and Martinique.

Supported in his contentions before the academy by Professor Jeanselme, M. Paul Vigne suggested in energetic terms that the minister of health should devote more time and attention to this situation, which may become grave if the increase in leprosy continues. As the Academy of Medicine requested in 1925, it would be better if the surveillance of leprous persons were turned over to the maritime sanitary service, which is more vigilant and more competent to handle the situation than are the municipal authorities, to whom, unfortunately, the supervision has been entrusted, for it has been shown that it is since this change was made that leprosy has increased to such an extent. A special center for the isolation and the supervision of leprous persons, such as is found in many other countries, is likewise needed, since such isolation is the sole means of preventing the spread of the disease, as the experience of the middle ages has proved.

The Increase of Syphilis

From many sources it is reported that syphilis, which had increased greatly toward the end of the war, had remained at a high level while the foreign armies were on French soil, but had decreased rapidly after their departure, is again on the increase, particularly in Paris. MM. Gougerot and Burnier presented recently some alarming statistics before the Société de dermatologie et de syphiligraphie. They stated that the number of recent cases of syphilis admitted to their clinic in the Hôpital St. Louis has steadily increased since 1924, there being 491 cases in 1926, 611 in 1927 and 670 in 1928. Chancroid, also, has increased every year since 1922, with the single exception of 1928, in which year there was a slight decrease. The increase does not appear to be due, this time, to the afflux of foreigners, for the foreign population appears to be stationary or even to be diminishing. The adjoining table gives the incidence of syphilis among Frenchmen and foreigners for the years 1926, 1927 and 1928.

Incidence of Syphilis

	1926	1927	1928
Frenchmen	388	506	570
Natives of Northern Africa	31	20	27
Foreigners	72	85	73

Furthermore, all the foreigners who sought treatment in the clinic mentioned had contracted the disease in Paris. Nor does it appear that the fact that arsphenamines have been abandoned by practitioners in the treatment of attacks of syphilis can be incriminated as a causal factor in the increase of syphilis, for chancroid has increased in almost identically the same manner, since 1922, with the exception of the slight diminution in 1928. The incidence of chancroid at the clinic for the years 1926, 1927 and 1928 is set forth in the accompanying tabulation.

Incidence of Chancroid

	1926	1927	1928
Men	270	340	270
Women	22	49	37
Yearly totals	292	389	307

The causes for the increase of syphilis are many and varied: (1) negligence of the patients, who wait too long before consulting a physician — often from three to five weeks after the appearance of a chancre — and who spread infection among their entourage; (2) incorrect diagnosis by an inexperienced physician (which proves the need of a longer course of training in venereology, for all students), and (3) the impossibility of compelling patients to accept treatment and to remain in the hospital during the contagious period, and of inducing those with primary and secondary syphilis to take regular ambulatory treatment. Of 452 men with recent syphilis, 293 (65 per cent) discontinued their treatment. The principal reason for the recrudescence of syphilis is the increase of prostitution, in recent years. According to the statistics of the authors, prostitution is responsible for 67 per cent of the cases of syphilis and 72 per cent of the cases of chancroid.

The Treatment of Rickets with Irradiated Ergosterol

M. Marfan and Mme. Dollfus-Odier, who have treated many rachitic children with irradiated ergosterol, point out that the first and the most important effect of the remedy is the recalcification of the diaphysis of the long bones, a remineralization that becomes evident at the end of twenty hours. On the associated symptoms the efficacy of irradiated ergosterol is inconstant, but it has a remarkable effect on tetanus when that disease occurs simultaneously with rickets. Although there are slight differences, the action of irradiated ergosterol is similar to that of the direct application of ultraviolet rays. While ergosterol appears to calcify more rapidly, the ultraviolet rays modify more rapidly and more completely the form of the bone. The general eutrophic action of both is very evident, but ergosterol has the advantage of being in a form easily employed and less expensive.

BERLIN

(From Our Regular Correspondent)

May 4, 1929.

Meeting of the Deutsche Gesellschaft für Kinderheilkunde

At the meeting of the Deutsche Gesellschaft für Kinderheilkunde, which was held under the chairmanship of Professor Noeggerath of Freiburg, the first main topic on the program was: "The Pathology and Treatment of Eczema and Related Cutaneous Diseases in Children." Von Gröer of Lemberg discussed "The Skin of Children as an Organ of Reaction." The skin of man possesses a perceptive and a digestive character. Local dermoreactions, teledynamic actions and excretory activity in response to exogenic and endogenic stimuli characterize its function. The local dermoreactions are determined more by the degree than by the quality of the stimulus. The pigmentary reaction occupies a midway position between the functional and the inflammatory reaction. Wheal formation as a functional reaction constitutes a form of protection and is based on a local change of reaction that presents two phases. The inflammation brings about a functionally changed condition of the skin. This allergy has been studied recently by two methods: the utilization of the local blood picture and the wheal formation in connection with various substrates and later injection of dyes. The teledynamic reaction may be caused by the blood stream or by the nervous system. The vagotonic origin of local changes in the blood corpuscles, as emphasized by Müller and Delbanco, is important; the skin would therefore appear to be, to a certain extent, the sensory organ of the vegetative nervous system. In addition, the skin is especially important as an excretory organ, particularly for the causative agents of disease. This function appears more important than its supposed activity in the formation of immune bodies, which is still unproved. The skin is also a safety valve protecting the body against the accumulation of injurious substances. In the newborn, the skin is in a condition of maturation and is particularly vulnerable, but possesses a form of resistance to eczema. The child previous to sexual maturity has a skin that is easily hypersensitized, being in a condition of serobiologic maturation. In the period of puberty, the type of reactivity matures, and the trend of the hormones and the cutaneous flora undergo peculiar changes. The recent researches of Jaddassohn and Bloch have not refuted the common concept "exudative diathesis."

ECZEMA FROM THE STANDPOINT OF THE IDIOSYNCRASY THEORY

Professor Bloch of Zurich presented a paper on "Eczema from the Standpoint of the Idiosyncrasy Theory." The former conception of dermatology that eczema in adults is a dermatosis due to altered metabolism has not been confirmed by later researches. An advance was reached when it was shown that in all probability dermatitis arteficialis eczematosa and eczema are essentially identical processes. It is now known that in healthy persons all the symptoms of eczema can be produced experimentally by rubbing extract of primrose into the skin. It may be safely assumed today that all types of eczema have a uniform reaction mechanism. This is associated with the fact that eczema represents an idiosyncratic reaction of the skin. Eczema develops through cutaneous or, less frequently, through hematogenic contact of a substance with a skin that naturally possesses or has acquired an individual, specific hypersensitiveness for this substance. The author discussed, further, the relations of eczema to other idiosyncrasies, such as asthma,

hay-fever and urticaria, and cited the reasons for holding that eczema comes under the general head of allergic conditions. Whether or not idiosyncratic reactions lie at the base of the eczemas whose cause is still unknown (particularly, the eczema occurring in infants) is not yet certain. However, there are many things pointing in that direction, and therefore further researches should be undertaken. Likewise, in researches on diet and nutrition in relation to eczema one must pay more attention to idiosyncratic antigens, which are not necessarily protein bodies.

ECZEMA OF THE NEW-BORN

Professor Moro of Heidelberg dealt with the topic of "Eczema of the New-Born." Frequently the causation must be sought in disturbances of metabolism of a peculiar type. A knowledge of these disturbances will be promoted if one will separate the dermatoses of the first three months of life from genuine eczema. These dermatoses are merely disturbances of cornification, and are erroneously designated as eczema seborrhoicum. They resemble psoriasis, and can be included under the erythrodermia group. Genuine eczema is characterized by the status functiosus, which is conditioned by the neurogenic nature of the reaction. This eczema appears later, doubtless because the finer differentiation is not completed until later, through the innervation of the epidermis. If one recognizes these two groups, that will constitute the first step toward classification, though numerous mixed types will, of course, render the separation difficult. In any event, dyskeratosis occurring during the first months of life must be sharply distinguished from eczema as such. Concerning the cause and nature of genuine eczema nothing very definite is known. It is evident, however, that it is due to a disturbed functioning of the rete mucosum produced by endogenous factors. In the disturbances of the first few months, on the other hand—as, for example, crusta lactea—it is possibly a matter of rachitic skin. Likewise, disturbances in the calcium and potassium metabolism of the skin have been demonstrated microchemically.

Professor Rost-Keller of Freiburg discussed "The Late Period of Exudative Diathesis." In these rare disorders, there are relations to allergic asthma, which occurs frequently in the patient or in the family. Most of these patients react to the intracutaneous injection of Storm van Leeuwen extracts in the same manner as asthma patients. However, one must use stronger concentrations in exudative children than in adults.

During the general discussion, Hoffmann of Bonn emphasized that eczema can be demonstrated by skin reactions only during the incipient stage. The scaling is caused by lack of fat in the skin (which should be supplied therapeutically). Pässler of Dresden pointed out the connections between exudative diathesis and chronic infection. Rietschel of Würzburg suggested that the concept "exudative diathesis" be used only clinically. L. F. Meyer of Berlin stated that dermatoses are distinguished from eczema by several facts: "The children are not chemically hypersensitive; dermatoses heal spontaneously after from two to three months; they never become infected, and never take on the nature of papulovesicular eczema. Their prognosis is favorable. Moro suggested doing away with the term "eczema seborrhoicum." Von Gröer stressed that the skin reaction of the young child is different from that of adults. Bloch held that eczema seborrhoicum is not a genuine eczema. He did not, however, approve the term "dyskeratosis." Nor did he think that the nerve distribution furnished a better explanation of the punctiform condition in genuine eczema than the assumption of an idiosyncrasy. Moro thought that the nerves might possibly be involved. Eczema should be treated clinically with tar, petrolatum with salicylic acid, and the like. Hoffmann recommended a 2 per cent solution of silver nitrate with 2 per cent zinc borate ointment. Afterward, the skin should be painted with a solution of chloral hydrate and tannin.

(To be continued)

Marriages

THOMAS J. COOGAN, Chicago, to Miss Evelyn Bermingham of Fort Worth, Texas, at Lincoln, Ill., April 13.

WILLIAM EUGENE SUMMERVILLE to Miss Olivia Margaret Diebold, both of Louisville, Ky., February 5.

GLEN E. GLASGOW, Hanna City, Ill., to Miss Dorothy M. Butts of Los Angeles, at Chicago, May 9.

BURTON LEARN STERNER, Ellis Island, N. Y., to Miss Marguerite C. Budd of Yonkers, June 1.

ERIC KOSTERLITZ, Albany, Calif., to Dr. Madeline Vermeys of San Francisco, May 11.

JOHN C. MASON, Hondo, Calif., to Miss Ruth Mae Cole, at Los Angeles, May 4.

Deaths

Chandler Prather Robbins ⊕ Lieut. Col., U. S. Army, Columbus, Ohio; Hospital College of Medicine, Louisville, 1897; entered the army as an assistant surgeon in 1900; was promoted through the various grades to that of lieutenant colonel in 1917; served during the World War; was retired in 1922 after twenty-two years' service; chief of division of communicable diseases of the Ohio State Department of Health; aged 56; died suddenly, May 4, of heart disease.

Robert Lyman Morris ⊕ Decatur, Ill.; Medical Department of the University of Illinois, Chicago, 1904; member of the American Urological Association; served during the World War; formerly on the staff of the Decatur and Macon County Hospital; aged 51; died, May 13, of carcinoma.

Joseph L. Eblen, Alton, Mo.; Missouri Medical College, St. Louis, 1898; member of the Missouri State Medical Association; formerly mayor of Alton and member of the school board; aged 60; died, April 30, at the Baptist Memorial Hospital, Memphis, Tenn., of amebic dysentery.

James Monroe Bentley, Whitesburg, Ky.; Kentucky University Medical Department, Louisville, 1906; member of the Kentucky State Medical Association; past president of the Letcher County Medical Society; aged 52; died, May 14, of streptococcic infection of the larynx.

Marvin Zabriskie Westervelt ⊕ Staten Island, N. Y.; New York Homeopathic Medical College and Hospital, 1899; member of the Connecticut State Medical Society; aged 52; superintendent of the Staten Island Hospital, where he died, May 12, of coronary thrombosis.

Arthur Williams, Elkridge, Md.; University of Pennsylvania School of Medicine, Philadelphia, 1874; member of the Medical and Chirurgical Faculty of Maryland; aged 75; died, May 7, at St. Agnes' Hospital, of a skull fracture received in an automobile accident.

Frank Cornelius Balderrey, Tucson, Ariz.; University of Illinois College of Medicine, Chicago, 1913; member of the Arizona State Medical Association; on the staff of the Southern Methodist Hospital and Sanatorium; aged 42; died, May 9, following an operation.

John L. Walker, Waycross, Ga.; Atlanta Medical College, 1879; member of the Medical Association of Georgia; formerly member of the state board of medical examiners and state board of health; at one time mayor; aged 74; died, May 14, of arteriosclerosis.

Edward G. Reynard, Union City, Ind.; Medical College of Ohio, Cincinnati, 1884; member of the Indiana State Medical Association; formerly member of the school board; on the staff of the Union City Hospital; aged 68; died, May 17, of heart disease.

Thomas Benjamin Younger ⊕ Fisher, La.; St. Louis College of Physicians and Surgeons, 1901; past president and secretary of the Sabine Parish Medical Society; aged 55; died, April 30, in a sanatorium at Shreveport, of heart disease.

Columbus B. Wright, Wedowee, Ala.; Atlanta College of Physicians and Surgeons, 1898; member of the Medical Association of the State of Alabama; past president of the Randolph County Medical Society; aged 56; died, May 13.

William E. Browning ⊕ Caledonia, Minn.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1899;

aged 56; medical director and superintendent of the Caledonia Hospital, where he died, May 6, of cerebral hemorrhage.

Luther Albert Murray, Detroit; Detroit Homeopathic College, 1907; member of the Michigan State Medical Society; on the staff of the Grace Hospital; aged 45; died, April 20, of exophthalmic goiter and acute dilatation of the heart.

Eino Rafael Ahlman ✠ Hoquiam, Wash.; University of Leningrad, Russia, 1897; on the staff of the Hoquiam General Hospital; aged 57; died, April 15, at Tacoma General Hospital, of carcinoma of the large intestine.

William Herbert Lewis, Lawrenceville, Va.; University of Maryland School of Medicine, Baltimore, 1896; member of the Medical Society of Virginia; aged 56; died, May 3, of arteriosclerosis and heart disease.

Charles Morris Lacey ✠ Bessemer, Ala.; Vanderbilt University School of Medicine, Nashville, 1926; aged 28; died, May 3, at the Hillman Hospital, Birmingham, of shock, following operation for jejunal ulcer.

Harry Lee Bounds, Mansfield, Ohio; Ohio Medical University, 1904; aged 56; on the staff of the Lancaster (Ohio) Municipal Hospital, where he died, May 10, of heart disease and abscess of the lung.

Granville W. Prewett, Marshall, Ill.; Missouri Medical College, St. Louis, 1882; formerly mayor and for twelve years member of the board of education; aged 79; died, April 28, of chronic myocarditis.

Harry Edwin Battin ✠ Corning, N. Y.; Albany Medical College, 1897; president of the medical staff of the Corning Hospital; aged 55; died, May 11, in the Bath (N. Y.) Hospital, of heart disease.

John Fred Farr ✠ Eau Claire, Wis.; Minneapolis College of Physicians and Surgeons, 1897; health officer of Eau Claire; on the staff of the Sacred Heart Hospital; aged 67; died, May 9, of pneumonia.

Chester W. McBurnett ✠ Palmer, Texas; Southern Medical College, Atlanta, Ga., 1895; past president of the Ellis County Medical Society; aged 56; died, April 10, of coronary thrombosis.

James S. Wead, Wyoming, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1894; member of the Illinois State Medical Society; aged 60; died, May 16, of hypothyroidism.

John Francis Jones, Columbus, Ohio; Ohio Medical University, Columbus, 1898; aged 63; died, May 7, in St. Anthony's Hospital, of atrophic cirrhosis of the liver.

Sherman Say Kathan, Corinth, N. Y.; Albany Medical College, 1891; aged 63; was killed, May 12, when the automobile in which he was driving overturned.

George Everet Shively, Owensboro, Ky.; Barnes Medical College, St. Louis, 1899; formerly mayor of Marion; aged 51; died, May 13, of carcinoma of the larynx.

William W. Douglas, Hillsboro, Ill.; Missouri Medical College, St. Louis, 1880; formerly member of the school board; aged 70; died, May 8, of heart disease.

Helen P. Wilson, Van Wert, Ohio; Northwestern University Woman's Medical School, Chicago, 1897; aged 61; died, May 10, of heart disease.

Charles Ira Hooker, Pearl City, Ill.; Rush Medical College, Chicago, 1886; formerly a druggist; aged 70; died, May 1, of carcinoma of the stomach.

Clara L. Habermel, Corydon, Ind. (licensed, Indiana, 1890); aged 70; died, May 8, at the home of her daughter in Harrisburg, Ill., of angina pectoris.

Charles A. Parke Ebbert ✠ Grantville, Ga.; Atlanta College of Physicians and Surgeons, 1913; aged 56; died suddenly, May 16, of heart disease.

Clarence S. Tisdale, Joplin, Mo.; Hahnemann Medical College and Hospital, Chicago, 1909; aged 51; died, May 12, in Chicago, of carcinoma.

James Edson Cunningham, Chickamauga, Ga.; Chattanooga (Tenn.) Medical College, 1892; aged 89; died in May, of uremia.

John B. Gerino, Houston, Texas (licensed, Texas, under the act of 1907); aged 61; died, May 3, of carcinoma of the stomach.

S. A. Heflin, Walters, Okla. (licensed, Oklahoma, under the Act of 1908); aged 54; died suddenly, April 22, of heart disease.

Oscar N. Pendergrass, Monroe, Ga.; Atlanta Medical College, 1893; aged 57; died, April 28, of pernicious anemia.

Arthur A. Thomen, Columbus, Ohio; Columbus Medical College, 1881; aged 69; died, May 5, of heart disease.

Bureau of Investigation

THE CASE OF ARTHUR G. MARGOT

We first heard of Arthur Margot, or Arthur G. Margot, as he sometimes seems to be known, in October, 1924, when Dr. D. A. Gregory, Secretary of the Seventh District Medical Society, Sioux Falls, South Dakota, wrote asking for information regarding "Dr. Arthur Margot." The reason for the inquiry was that Margot had applied for membership in the local medical society, but Dr. Gregory was unable to find Margot listed in the American Medical Directory. Margot, on his application for membership, claimed to have been born in Cincinnati in 1890 and to have received his preliminary education at "Groton Academy," Groton, Massachusetts, and to have been graduated in medicine by the University of Lyons, France, in 1912. Dr. Gregory was told that the American Medical Association's records failed to show that Margot was a graduate of any reputable medical school or licensed to practice in any state in the Union. The records did show that Margot had attended Denver and Gross College of Medicine for the session 1909-1910, and the University of Colorado School of Medicine for the session 1910-1911. He did not continue at the University of Colorado, probably because of "conditions" and failures. As the Registrar of the University has put it: "I presume that he was requested to discontinue because his scholarship and attention to laboratory courses was very poor indeed."

Nothing further was heard about Margot until March, 1928, when Dr. E. E. Tupper, Secretary of the Eau Claire County (Wis.) Medical Society, submitted an "Applicant for Membership" blank on Arthur G. Margot, who, it seems, wished to become a member of that society. In this application, Margot claimed to be a graduate in medicine of the University of Manchester, England! Dr. Tupper was told that Margot was not a physician and that, as his name did not appear in the British Register, it was highly improbable that he was a graduate of any British medical college.

Margot claims to be a pathologist and bacteriologist and he seems to be shrewd enough to be able to "put it over"—until his work has been checked. Margot has, for more or less brief periods, been able to pose as a physician and a pathologist in Philadelphia, Chicago, Milwaukee, St. Paul, Sioux Falls, South Dakota, Eau Claire, Wisconsin, and Fall River, Massachusetts, where he now is.

Margot's experience in Philadelphia is more or less shrouded in mystery. He seems to have been employed in a laboratory at the Henry Phipps Institute for a period prior to 1916. It has been charged that while there Margot fabricated laboratory work, borrowed money without repaying it, and got into some other troubles that need not, at this time, be gone into. After leaving Philadelphia, Margot seems to have gone to Chicago, where, for a while, he was a research assistant in the Nelson Morris Memorial Institute for Medical Research. Here, it was reported, he also failed to "get along well with the intern staff, who accused him of failure to repay money which had been loaned him."

In the fall of 1918, Margot was appointed as instructor in pathology in the Medical School of the University of Minnesota, "but his work was so unsatisfactory that he was dismissed three or four months before the end of the year." From Minnesota he seems to have gone to Milwaukee, Wisconsin, where he was employed for a short time as Laboratory Director at the Milwaukee County Hospital. What impression Margot made among his Milwaukee confrères is informally, but vividly, described in a letter written subsequent to his dismissal:

> "Margot is a peculiarly constituted individual. He has a personality; he is a salesman. He can put across his job to a layman to a certain extent. He has the faculty of impressing people on first acquaintanceship. He sold himself to all of the real medical men in this community. He came here at a hundred dollars a month and, by his clever tactics, a fine laboratory was fixed up for him. He carried on under this mask for two or three years, no results ever having been obtained. Finally the day of

reckoning came and we are informed by the medical men that he did not possess one one-hundredth of the qualifications of a pathologist he claimed to possess.

"We thought we had a real find when 'Dr.' Margot first began to work for us. And when three of the internes of the County Hospital threw him into an ice cold bath, with all his clothes on, because he 'failed' a few of the nurses in some class he was teaching, we discharged the internes in order to maintain discipline. Had we known then what we now know, we would possibly have closed our eyes to the incident.

"I merely relate this incident as one of many, to impress upon you that Dr. Margot could, in no way, command the respect of the people with whom he worked. He gloats in authority and is never happier than when he is giving orders. Of course, at first, he will be very suave, diplomatic and courteous, until his position is, as he believes, secure.

"There was not a person in all the surrounding community, after he had been here three years, who would have a good word for him. The medical men abhorred his presence."

From Milwaukee Margot went to Sioux Falls, where again he quite successfully deluded physicians—for a while. Margot, however, made the mistake of applying for membership in the local medical society, which brought the letter of inquiry from Dr. D. A. Gregory, already referred to. His next field of operations was Eau Claire, Wisconsin. The reaction of the Eau Claire profession is quite well described in a letter received recently from a well-known Eau Claire physician, who wrote:

> "Margot's greatest handicap was his lack of honesty and truthfulness. He did some very excellent work here, while other work was simply bluffed through. He probably made altogether too many mistakes to make even a reliable technician. His tissue and bacteriological work was poor. He had a fascination for blood disorders and did some very nice work along that line. His wife was a first-class chemist and I am sure she helped him a great deal with his blood chemistry work, especially in the start."

The position that Margot now holds, or did hold at the time of going to press, is that of pathologist to the Truesdale Hospital and Earle P. Charlton Surgery, Fall River, Massachusetts. Arthur Margot obtained his present position by imposing on a reputable employment agency. The imposition was made possible by the testimonials given by well-meaning physicians in Eau Claire, whose names were given by Margot as references. It is but fair to state, however, that his present employers have known since last July that Margot is not a medical man, as he professed to be and that he had obtained his position by falsehood and deceit.

Briefly summed up, the case against Arthur G. Margot can be put thus:

CLAIM I.—That he obtained his preliminary education from "Groton Academy" at Groton, Mass., and an A.B. degree from "Laurence College," Groton, Mass.

Facts:—There is no "Groton Academy" nor "Laurence College" at Groton, Mass. There is a Laurence Academy which does not, of course, grant degrees; it knows nothing about Arthur Margot.

CLAIM II.—That he is a graduate in medicine (1912) from the University of Lyons, France.

Facts:—The University of Lyons denies that any such man either attended or was graduated by that institution.

CLAIM III.—That he is a graduate in medicine (1914 or 1915—both claimed) from the University of Manchester, England.

Facts:—The University of Manchester denies that any man of this name either matriculated with or was graduated by it.

CLAIM IV.—That he was a "Research Fellow in Pathology and Bacteriology at St. Mary's Hospital, London, England."

Facts:—No man by the name of Arthur G. Margot is known by the authorities of St. Mary's Hospital.

It is hoped that the publication of these facts regarding Margot may prevent this man from further imposing on the medical profession.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SPELLING OF "LACHRYMAL"

To the Editor:—What is the preferred spelling of the word lachrymal? Gould gives it as lacrimal and the last edition of Webster gives the word as lachrymal but says lacrimal is preferred. In two papers sent in for publication in our transactions, one author spells the word *lacrimal* and another *lachrymal*. It seems rather ridiculous that two authors should spell the same word on the same subject two different ways. I always have used the American Medical Association usage as regards spelling and capitals and would appreciate your opinion on the subject.

GEORGE L. RICHARDS, M.D., Fall River, Mass.

ANSWER.—The American Medical Association uses the spelling lacrimal. This spelling is given the preference by the American Illustrated Medical Dictionary, Gould's Medical Dictionary and the Standard Dictionary.

Stedman prefers lacrymal.

Webster gives lachrymal, but says that the better, but unusual, spelling is lacrimal.

Fowler's Dictionary of Modern English Usage says: "Lachrym-. The true spelling for all the words would be *lacrim-*, & it would be at least allowable to adopt it; but *h* & *y* are still usual."

The Oxford Dictionary says: "The *ch* of the prevailing spelling of lachrymal and the related words is due to the med. L. practice of writing *ch* for *c* before Latin *r;* cf. *anchor, pulchritude, sepulchre.* The *y* in med. L., a mere graphic variant of *i*, has been retained in mod. Eng. orthography from the erroneous notion that *lacrima* is an adoption of Gr. δάκρυμα. The theoretically correct spelling lacrim- has at present no currency, but some writers have adopted the half-correction lacrym-."

INJECTION TREATMENT OF HEMORRHOIDS WITH SOLUTION OF QUININE AND UREA HYDROCHLORIDE

To the Editor:—I have been using a 4 per cent solution of quinine urea in the treatment of hemorrhoids. I want to know whether it would be safe to add to this 4 per cent solution of quinine urea solution 1 or 2 per cent ephedrine sulphate. Would the ephedrine sulphate be better than epinephrine? What would you consider a maximum dose of this mixture for injecting hemorrhoids? I have been using 1 cc. of a 4 per cent solution of quinine and urea at a treatment.

M. E. MEASE, M.D., Danville, Va.

ANSWER.—The addition of ephedrine sulphate or hydrochloride to solutions of quinine and urea hydrochloride could probably be done without any harm. The dose of ephedrine given intravenously should not exceed 20 mg.; that is, 1 cc. of a 2 per cent solution. However, the advantage of constricting hemorrhoidal veins by ephedrine or epinephrine would be offset by the unestimable rise in blood pressure, which may cause disagreeable subjective symptoms and even serious complications. Following the subcutaneous injection of 50 mg. of ephedrine sulphate, a rise of systolic blood pressure from 130 to 210 mm. of mercury may occur. The irritant solution itself, either quinine or preferably 50 per cent dextrose solution, causes a spasm of the vein so that other vasoconstrictor substances do not seem necessary. If the injected solution leaks out of the vein, which it sometimes unavoidably does, the presence of ephedrine or epinephrine would only add to the danger of necrosis.

TREATMENT OF TUBERCULOUS PERITONITIS

To the Editor:—Will you kindly outline the latest approved treatment and management of a case of tuberculous peritonitis in a patient, aged 52 years, who has suffered from the disease for about eight years. There is flatness on percussion and hardness on palpation over the abdomen, which is considerably enlarged, but no fluid can be demonstrated. There is much pain and tenderness over the abdomen, and there are occasional night sweats. The appetite is good, and there has been little loss of weight. Please omit my name.

M.D., Missouri.

ANSWER.—In a case of such long standing, treatment must be largely symptomatic. Constipation is to be combated with mild laxatives, and diarrhea by opiates and astringents. If the abdominal pain is paroxysmal (peristaltic) in character, it will be materially relieved by the intravenous injection of 20 cc. of a 5 per cent solution of calcium chloride. The effect usually is evident for about ten days, when the injection may be repeated. This remedy is in no sense a cure. Direct sunlight in increasing

doses may be of great benefit, beginning with five minutes daily, increasing five minutes daily until a half hour daily is attained. Sunburning should be avoided. When the sun is not sufficiently available, the quartz lamp may be used, but more cautiously. The lungs should be watched.

PURCHASE OF RADIUM

To the Editor:—I am considering buying some radium and first would like for you to answer these questions to the best of your knowledge. 1. How much radium would be sufficient for the average user? 2. Do you consider this a good investment? 3. Does radium lose its value after long use? 4. What is the price of radium? If I should purchase some radium for use, I will take a special training along the line of the proper usages and dosage. Please omit name. M.D., South Carolina.

ANSWER.—1. This depends on the case one wishes to treat. Dermatologists may get along comfortably with one or several plaques, each containing from 5 to 10 mg. of radium element. Gynecologists would need at least 50 or 100 mg. in the form of radium tubes. Radiologists who treat serious cancer cases should have at least a gram of radium.

2. It is difficult to say whether or not radium is a good investment. From the standpoint of efficient service, much can be done with radium skilfully used.

3. No.

4. The present price of radium is about $70 to $75 per milligram.

ACCURACY OF APPARATUS FOR DETERMINING BASAL METABOLIC RATES

To the Editor:—Can you give me any information concerning the accuracy and reliability of the Jones basal machine for metabolism tests, manufactured by the Middlewest Instrument Company? Its principles of construction are so vastly different from the recognized metabolism machines on the market that I wonder how it compares with the accuracy of the other machines. Would it prove just as accurate in testing patients with a very low or a very high metabolic rate, since their tracing is on a straight plate and stops automatically after the expiration of a few minutes? Kindly omit name. M.D., Pittsburgh.

ANSWER.—The Jones basal metabolism machine was tested out when it was first introduced, and at that time was found to compare favorably with other clinical metabolic apparatus. We do not know of any recent comparative studies, although users of the Jones machine are satisfied with regard to its accuracy.

METHYL CHLORIDE POISONING

To the Editor:—I am at present treating a case of methyl chloride poisoning in an employee of a company installing mechanical refrigeration in homes. I have been unable to procure any literature pertaining to the substance. I would appreciate any literature or advice on the matter. Please omit name. M.D., Chicago.

ANSWER.—The U. S. Bureau of Mines, located in Washington, D. C., has recently completed an exhaustive study of refrigerants, including methyl chloride. The accumulated material has been published in Public Health Bulletin 185 (March, 1929), "Physiological Response Attending Exposure to Vapors of Methyl Bromide, Methyl Chloride, Ethyl Bromide and Ethyl Chloride." Methyl chloride poisoning has been studied in Europe by Gerbis (*München. med. Wchnschr.* **61**:879, 1914) and Roth (*Schweiz. Ztschr. f. Unfallkunde* **17**:169, 1923), and in this country by Baker (THE JOURNAL, April 9, 1927, p. 1137).

Methyl chloride is far more toxic than its related substance, ethyl chloride. Although both of these substances have been used as general anesthetics for human beings with safety, it appears that prolonged exposure to methyl chloride leads to a cumulative action with definite and characteristic results.

Patients have the general appearance of alcoholic drunkenness. They describe a sensation of "walking on air." The feet are regularly raised much higher than necessary for ordinary walking. Sleepiness is a constant characteristic, and in severe cases men may sleep while driving a car or while standing. The extrinsic eye muscles are commonly affected; vision is impaired; accommodation becomes abnormal; diplopia is frequent. Some involvement of the optic nerve has been described, which is not persistent. Late in the intoxication the somnolence changes to sleeplessness.

The action of methyl chloride as an industrial intoxicant is in part attributable to methyl chloride per se, of which action extreme somnolence is a characteristic manifestation, and in part to the cumulative effects of traces of decomposition products.

Prolonged intake of methyl chloride into the body leads to the slow formation of methyl alcohol, from which substance methyl chloride is derived. In turn this methyl alcohol is oxidized to form formaldehyde and formic acid. Formates are detectable in the urine. Baker refers to "the similarity of symptoms produced by methyl chloride and those produced by methyl alcohol," and states that "formates were found in exact proportion to the severity of the symptoms." The extent to which methyl alcohol is thus formed in the human body is unknown and is probably variable, depending on the hydrogen ion concentration of the blood, alkalosis favoring this form of decomposition.

Prognosis for eventual recovery is good, although the period of impairment for well established cases is to be reckoned in weeks rather than in days.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 9-12, 1929. Chairman, Dr. J. N. Baker, 519 Dexter Avenue, Montgomery, Ala.

AMERICAN BOARD OF OPHTHALMIC EXAMINERS: Portland, Ore., July 8, and Philadelphia, Oct. 21. Sec., Dr. William H. Wilder, 122 South Michigan Avenue, Chicago.

AMERICAN BOARD OF OTOLARYNGOLOGY: Portland, Ore., July 8, 1929. Sec., Dr. W. P. Wherry, 1500 Medical Arts Building, Omaha, Neb.

ARIZONA: Phoenix, July 2, 1929. Sec., Dr. H. P. Mills, 320 Goodrich Building, Phoenix, Ariz.

CALIFORNIA: San Francisco and Los Angeles (reciprocity), June 12; Los Angeles, July 8-11 and San Francisco, July 15-18. Sec., Dr. Charles B. Pinkham, 420 State Office Bldg., Sacramento, Calif.

DELAWARE—Regular and Homeopathic: Wilmington, June 10-12. Sec., Dr. Harold B. Springer, 1013 Washington Street, Wilmington, Del.

FLORIDA: Jacksonville, June 17-18, 1929. Sec., Dr. William M. Rowlett, 812 Citizens Bank Building, Jacksonville, Fla.

HAWAII: Honolulu, July 8, 1929. Sec., Dr. James A. Morgan, Room 48, Young Building, Honolulu, Hawaii.

ILLINOIS: Chicago, June 25-28. Supt. of Registration, Mr. V. C. Michels, Springfield, Ill.

INDIANA: Indianapolis, June 25-27. Sec., Dr. E. M. Shanklin, 421 State House, Indianapolis, Ind.

KANSAS: Kansas City, June 18, 1929. Sec., Dr. Albert S. Ross, Sabetha, Kan.

KENTUCKY: Louisville, June 11-13. Sec., Dr. A. T. McCormack, 532 W. Main Street, Louisville, Ky.

LOUISIANA: New Orleans, June 13-15. Sec., Dr. Roy B. Harrison, 1507 Hibernia Bank Building, New Orleans, La.

MAINE: Augusta, July 2-3. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.

MARYLAND: Baltimore, June 18-21. Sec., Dr. Henry M. Fitzhugh, 1211 Cathedral Street, Baltimore, Md.

MARYLAND—Homeopathic: Baltimore, June 11. Sec., Dr. J. S. Garrison, 517 Old Orchard Road, Ten Hills, Baltimore, Md.

MICHIGAN: Ann Arbor, June 11-13. Detroit, June 19-21. Sec., Dr. Guy L. Connor, 707-708 Stroh Building, Detroit, Mich.

MINNESOTA: Minneapolis, June 18-20. Sec., Dr. E. T. Sanderson, 524 Lowry Medical Arts Bldg., St. Paul.

MISSISSIPPI: Jackson, June 24-26. Sec., Dr. Felix J. Underwood, Jackson.

MISSOURI: St. Louis, June 12-14. Sec., Dr. James Stewart, Capitol Building, Jefferson City, Mo.

NEBRASKA: Omaha, June 10-12. Chief, Mrs. Clark Perkins, Bureau of Examining Boards, Lincoln, Neb.

NEW JERSEY: Trenton, June 18-19. Sec., Dr. Charles B. Kelley, 1101 Trenton Trust Building, Trenton, N. J.

NEW YORK: New York, Albany, Syracuse and Buffalo, June 24-27. Chief, Mr. Herbert J. Hamilton, Educational Building, Albany, N. Y.

NORTH CAROLINA: Raleigh, June 24. Sec., Dr. John W. MacConnell, Davidson, N. C.

NORTH DAKOTA: Grand Forks, July 2-5, 1929. Sec., Dr. G. M. Williamson, Grand Forks, N. D.

OREGON: Portland, July 1-3, 1929. Sec., Dr. Joseph F. Wood, Suite 510-512 Selling Building, Portland, Ore.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 9-13, 1929. Dir., Mr. C. D. Koch, Harrisburg, Pa.

SOUTH CAROLINA: Columbia, June 25. Sec., Dr. A. Earle Boozer, 595 Saluda Ave., Columbia, S. C.

SOUTH DAKOTA: Rapid City, July 16, 1929. Dir., Dr. H. R. Kenaston, Bonesteel, S. D.

TENNESSEE: Memphis, Nashville and Knoxville, June 14-15. Sec., Dr. Alfred B. DeLoach, Medical Arts Building, Memphis, Tenn.

TEXAS: Austin, June 18-20. Sec., Dr. T. J. Crowe, 918-919 Mercantile Bank Building, Dallas, Texas.

VERMONT: Burlington, June 19-21. Sec., Dr. W. Scott Nay, Underhill, Vt.

VIRGINIA: Richmond, June 18-21. Sec., Dr. J. W. Preston, 720 Shenandoah Life Building, Roanoke, Va.

WASHINGTON-BASIC SCIENCE: Seattle, July 11-12, 1929. Dir., Mr. Charles Maybury, Olympia, Wash.

WASHINGTON: Seattle, July 15-17, 1929. Dir., Mr. Charles Maybury, Olympia, Wash.

WISCONSIN—Basic Science: Milwaukee, June 24. Sec., Prof. Robert N. Bauer, 3410 Wisconsin Ave., Milwaukee, Wis.

WISCONSIN: Milwaukee, June 25-27. Sec., Dr. Robert, E. Flynn, 315 State Bank Building, LaCrosse, Wis.

Book Notices

THE CHILD OF CIRCUMSTANCE: The Mystery of the Unborn. By Albert Wilson, M.D. Cloth. Price, $6. Pp. 420, with 66 illustrations. New York: William Wood & Company, 1929.

The London *Times* said that, if there ever was a successor to the doctor in Beside the Bonnie Briar Bush, it was Albert Wilson. He was a general practitioner, consultant, hospital superintendent, and president of the Royal Society of Physicians of Edinburgh. His avocation was the study of criminals. He visited prisons throughout the world, making not only a sociological but also an anatomic study of criminals' brains, and keeping in touch with investigations carried on by other scientists. His last book contains some histologic evidence in the way of slides to prove what is perhaps his chief contention. Dr. Wilson believed that criminals are born unfinished. The die is cast at birth. The lack of finish at birth explains the incompetent, the born tired, the unemployed. Then what is the use? Why not painless extinction of those who commit great crimes, and the sterilization of the feebleminded to prevent the accumulation of their kind? He wants the race to be aristocratic; that is, well bred. A poor family free from disease and taint is quite as good and often better to breed from than the rich. He has known many distinguished persons who came from the depths of pauperism, and some of the best citizens who were illegitimate. We should not judge our fellow men too closely, for from conception nearly every one has had to encounter unseen obstacles against which there can be no salvation. This and similar statements are corroborated in his opinion by photographs showing a criminal's brain of the anthropoid type. The brain of an intelligent orang-utan is shown beside that of an imbecile. It appears obvious that the former is better organized. There are some beautiful histologic slides to show the delicacy of the mental machinery and how simple it is to do great damage through small accidents of birth. Drinking in parents may be the source of criminals, for alcohol injures the germ cells even before its effects are evident on the body cells. Dr. Wilson has no sympathy for the freudian psychology and he does not condone crime. The mother should receive more care during pregnancy. The word chromosome should be engraved in large letters above the door of all our churches and halls of justice. He returns in the last chapter to the key of the problem, showing in slides the cortex of an infant's brain along with the cortex of a degenerate. The undeveloped neuroblasts are as numerous in one as in the other. Truly, the degenerate mentally is still a child. Then why hang him? The author commends painless extinction, when possible, or sterilization. His book, which is intended for the public, is entertaining and instructive. Probably sufficient proof has not been included to convince a scientific critic. A student of Lister and Huxley, and the friend of many noted men, Albert Wilson was the kind of neighbor that most men love. The night he finished this book a heart attack came on, and two days later his career was closed.

HANDBUCH DER MIKROSKOPISCHEN ANATOMIE DES MENSCHEN. Herausgegeben von Wilhelm v. Möllendorf. Band IV: Nervensystem. Teil 1: Nervengewebe. Das peripherische Nervensystem. Das Zentralnervensystem. Bearbeit von M. Bielschowsky, S. T. Bok, R. Greving, A. Jakob, usw., usw. Paper. Price, 190 marks. Pp. 1093, with 880 illustrations. Berlin: Julius Springer, 1928.

This volume covers the nervous system with the exception of the cerebral hemispheres, the related thalmic centers and the neuroglia. The introduction, the description of the morphology and internal anatomy of nerve cells, the structure of the synapse and a criticism of the neuron theory are by Bielschowsky. Since the last comprehensive presentation of these subjects was written by an enthusiastic neuronist (Heidenhain) it is fitting that this one should come from so able and critical an antineuronist. No new evidence is presented in favor of continuity at the synapse which is not open to serious criticism so far as the technic is concerned. The cytology here, as in most other volumes of the Handbuch, is weak. Stöhr's account of the peripheral nervous system is good; the vegetative division is naturally less satisfactory than the cerebrospinal, since it has been less thoroughly studied. The discussion of point of view and methods of analysis of the central nervous system is by the Vogts. Bok has an able presentation of the development, structure and conduction paths of the spinal cord; Mingazzini's chapter on the medulla oblongata and midbrain is neither complete nor inspired. Jacob's monograph on the cerebellum is the notable contribution of the volume. The subject is covered from every point of view with the thoroughness and critical acumen of an authority whose first hand knowledge is wide and detailed. Greving has gathered a wealth of observations on the central vegetative centers which should serve to direct and stimulate the investigation that must be done before the centers and paths of this system can be interpreted physiologically.

RECENT ADVANCES IN BACTERIOLOGY AND THE STUDY OF THE INFECTIONS. By J. Henry Dible, M.B., M.R.C.P., Professor of Pathology and Bacteriology in the Welsh National Medical School. Cloth. Price, $3.50. Pp. 363, with 22 illustrations. Philadelphia: P. Blakiston's Son & Company, 1929.

There is a multiplication of attempts to cope with the ever-increasing flood of scientific "literature" which bids fair to overwhelm even the most industrious research worker. Journals have been created for the special purpose of reviewing the most recent investigations on the most timely topics. A growing number of books are devoted to the same purpose and it seems probable that the advance of science is served quite as well by these critical evaluations of accumulated knowledge as by the addition of new minutiae to the already unmanageable heap of good, bad and indifferent observations and experiments. This book, dealing with recent advances in bacteriology, covers a wide field but seems generally fair and accurate. The reader who wishes to find brief summaries of our present knowledge of such subjects as bacterial variation, the bacteriophage, filter-passing viruses, the Calmette inoculation method, pneumococcus types, yellow fever and similar subjects will be well repaid by consulting Dible's useful little volume. The introductory chapter on bacterial classification is perhaps the least satisfactory. The proof-reading of proper names should have been done more carefully to avoid mistakes such as Mosser for Moser (p. 9), Labailly for Lebailly (pp. 197 and 205), and Crock for Krock (p. 203)

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

OXFORD MONOGRAPHS ON DIAGNOSIS AND TREATMENT. Edited by Henry A. Christian, M.D., ScD., LL.D., Hersey Professor of the Theory and Practice of Physic, Harvard University. Volume I: The Diagnosis and Treatment of Disorders of Metabolism. By James S. McLester, M.D., Professor of Medicine at the University of Alabama. Cloth. Price, $100 per set of 10 volumes. Pp. 328, with illustrations. New York: Oxford University Press, 1928.

The first of a monographic series by distinguished American teachers who write succinctly and clearly

OXFORD MONOGRAPHS ON DIAGNOSIS AND TREATMENT. Edited by Henry A. Christian, M.D., Sc.D., LL.D., Hersey Professor of the Theory and Practice of Physic, Harvard University. Volume II: The Diagnosis and Treatment of Diseases of the Stomach and Intestines. By William Fitch Cheney, B.L., M.D., Clinical Professor of Medicine, Stanford University Medical School. Cloth. Price, $100 per set of 10 volumes. Pp. 289, New York: Oxford University Press, 1928.

OXFORD MONOGRAPHS ON DIAGNOSIS AND TREATMENT. Edited by Henry A. Christian, M.D., Sc.D., LL.D., Hersey Professor of the Theory and Practice of Physic, Harvard University. Volume III: The Diagnosis and Treatment of Diseases of the Heart. By Henry A. Christian, M.D., Sc.D., LL.D., Hersey Professor of the Theory and Practice of Physic, Harvard University. Cloth. Price, $100 per set of 10 volumes. Pp. 355, with 21 charts. New York: Oxford University Press, 1928.

OXFORD MONOGRAPHS ON DIAGNOSIS AND TREATMENT. Edited by Henry A. Christian, M.D., Sc.D., LL.D., Hersey Professor of the Theory and Practice of Physic, Harvard University. Volume IV: The Diagnosis and Treatment of Diseases of the Thyroid. By James H. Means, M.D., Jackson Professor of Clinical Medicine, Harvard University, and Edward P. Richardson, M.D., John Homans Professor of Surgery, Harvard University. Cloth. Price, $100 per set of 10 volumes. Pp. 366, with 51 illustrations. New York: Oxford University Press, 1929.

DIE BEHANDLUNG DER KOSMETISCHEN HAUTLEIDEN UNTER BESONDERER BERÜCKSICHTIGUNG DER PHYSIKALISCHEN HEILMETHODEN UND DER NARBENLOSEN OPERATIONSWEISEN. Von Professor Dr. E. Kromayer. Second edition. Paper. Price, 5.50 marks. Pp. 124, with 7 illustrations. Leipzig: Georg Thieme, 1929.

Brief German notes on cosmetic therapy and particularly on the use of physical methods.

THEORETISCHE UND KLINISCHE PHARMAKOLOGIE: EIN LEHRBUCH FÜR STUDIERENDE UND ÄRZTE. Von H. v. Hoesslin, Prof. Dr. Med., und Franz Müller, a. o. Prof. Dr. rer. Nat. und Med. Third edition. Cloth. Price, 11 marks. Pp. 231. Leipzig: Georg Thieme, 1929.

New edition of a well known textbook of pharmacology.

A SURGICAL DIAGNOSIS. By J. Lewi Donhauser, A.B., M.D., F.A.C.S., Clinical Professor of Surgery, Albany Medical College (Union University). Cloth. Price, $10. Pp. 799, with illustrations. New York: D. Appleton & Company, 1929.

LABORATORY TECHNIQUE: The Methods Employed at St. Luke's Hospital, New York. By F. C. Wood, Karl Vogel, and L. W. Famulener. Third edition. Cloth. Price, $3.75. Pp. 318. New York: James T. Dougherty, 1929.

Medicolegal

Loss of Sight as Equivalent to Removal of Eye

(Covington et al. v. Sextet Local Mut. Aid Ass'n et al. (Texas), 8. S. W. (2d) 679)

The plaintiff sued the defendants for benefits alleged to be due under an insurance policy. The policy provided that should the holder lose "one eye by removal of the eyeball from the body" certain benefits were payable. It was agreed that the plaintiff suffered an injury to her right eye, that she became totally blind in that eye, and that the injury did not result in the removal of the eyeball. The trial court gave judgment for the defendants, and the plaintiff appealed to the court of civil appeals of Texas. The question before the court was whether or not the plaintiff was entitled to compensation in the absence of a removal of the eyeball. Insurance against loss of sight, the court said, was the controlling purpose of the provision with reference to the loss of the eye. The loss of one eye under the policy was classed as "partial disability," and that disability could have no other meaning, in the opinion of the court, except the loss of sight. The loss of the eye by removal of an eyeball could be no more a disability than loss of sight without such removal. The provision that the eye must be removed before liability attaches must, the court held, be considered as mere surplusage, inserted to protect the insurance company against fraud, and could not prevail where the loss of sight is clearly established. The judgment of the trial court was reversed and judgment rendered in favor of the plaintiff.

Unilateral Contract in Restraint of Practice Void

(Blanchard v. Haber (La.), 118 So. 117)

Blanchard and Haber, dentists, entered into a contract whereby Blanchard employed Haber as his assistant, with compensation at the rate of $60 a week, for ten years. The contract provided, however, that either party might terminate it by a thirty-day written notice, in which event the former employee should not, within the ten years next following its termination, practice dentistry within five blocks of the then location of the United Dental Company's offices nor solicit business of any of Blanchard's patients. The contract was terminated, and thereupon Blanchard obtained from the Civil District Court, Parish of Orleans, a temporary injunction restraining his former employee, Haber, from practicing or soliciting practice in violation of the terms of the contract. From the order granting that injunction, Haber appealed to the supreme court of Louisiana. Under articles 2024 and 2034 of the civil code of Louisiana, an obligation assumed under a contract is null if it depends for its execution on an event which one of the parties can bring about or hinder; that is, if there is no mutuality of obligations. This contract, the court pointed out, lacked mutuality in that the employer, without any cost to himself whatever, by giving thirty days notice could end it and put the employee out of business as a competitor for ten years, whereas the employee could not terminate the contract at all except by withdrawing for ten years from the practice of his profession as a competitor of his former employer. It is well settled, said the court, that an instrument purporting to be a continuing contract, but which only one of the parties is bound to carry out and for the carrying out of which he has received no price or consideration, and for which the other party has incurred no obligation, is not a valid contract. At common law any lawful consideration for a contract is sufficient. The civil law, however, which prevails in Louisiana, requires that the consideration be "serious and not altogether out of proportion to the obligation." The employer, Blanchard, contended that the salary to be paid under this contract, the association of his employee with a great number of patients and the knowledge to be gained by the employee in a modern dental establishment was a serious consideration and not out of proportion to the obligation imposed on the employee. But, said the court, the salary paid was the consideration for which the employee gave his services, and the association with patients and the knowledge to be gained by the employee were merely incidents of that employment. The employer contended further that, even though the contract was originally void because of its unilateral character, it became valid when it was partly executed. In rejecting this contention, however, the court pointed out that the only obligations of the contract that were partly executed were the obligation of the employee to perform services and the obligation of the employer to pay for those services, and that those obligations were mutually compensated as far as they were performed. Nothing was ever done in consideration or in execution of that part of the contract found by the court to be null because of its unilateral character. The order of the court below enjoining the employee from practicing was therefore annulled.

Society Proceedings

COMING MEETINGS

American Medical Association, Portland, Ore., July 8-12. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association for the Study of Allergy, Portland, Ore., July 8-9. Dr. Warren T. Vaughan, 118 E. Franklin St., Richmond, Va., Sec'y.

American Association of Medical Milk Commissions, Montreal, June 24-25. Dr. Harris Moak, 360 Park Place, Brooklyn, Secretary.

American Bronchoscopic Society, San Francisco, July 6. Dr. L. H. Clerf, 128 South 10th Street, Philadelphia, Secretary.

American Dermatological Association, San Francisco, July 1-3. Dr. C. Guy Lane, 416 Marlborough Street, Boston, Secretary.

American Federation of Organizations for the Hard of Hearing, Cleveland, June 24-27. Miss Betty C. Wright, 1601 Thirty-Fifth Street, N. W., Washington, D. C., Secretary.

American Heart Association, Portland, Ore., July 9. Dr. Haven Emerson, 370 Seventh Avenue, New York, Secretary.

American Hospital Association, Atlantic City, June 17-21. Dr. Bert W. Caldwell, 18 East Division Street, Chicago, Executive Secretary.

American Laryngological, Rhinological and Otological Society, San Francisco, July 4-6. Dr. R. L. Loughran, 33 E. 63d Street, New York, Sec'y.

American Ophthalmological Society, Hot Springs, Va., June 10-12. Dr. Emery Hill, 501 East Franklin Street, Richmond, Va., Secretary.

American Radium Society, Portland, Ore., July 8-9. Dr. G. W. Grier, Jenkins Arcade Building, Pittsburgh, Secretary.

American Society of Clinical Pathologists, Portland, Ore., July 5-8. Dr. H. J. Corper, National Jewish Hospital, Denver, Secretary.

American Urological Association, Seattle, July 1-3. Dr. Alexander Randall, Medical Arts Building, Philadelphia, Secretary.

Idaho State Medical Association, Lewiston, July 5-6. Dr. J. N. Davis, Kimberly, Secretary.

Maine Medical Association, Poland Springs, June 17-19. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.

Massachusetts Medical Society, Boston, June 10-12. Dr. Walter L. Burrage, 182 Walnut Street., Brookline, Secretary.

Medical Women's National Association, Portland, Ore., July 7-9. Dr. Elizabeth Kittredge, 3906 McKinley Street, Washington, D. C., Sec'y.

Montana, Medical Association of, Great Falls, July 17-18. Dr. E. G. Balsam, Box 88, Billings, Secretary.

New Jersey, Medical Society of, Atlantic City, June 12-15. Dr. J. B. Morrison, 66 Milford Avenue, Newark, Secretary.

New Mexico Medical Society, Taos, June 12-14. Dr. L. B. Cohenour, 219 West Central Avenue, Albuquerque, Secretary.

Pacific Coast Oto-Ophthalmological Society, Salt Lake City, July 1-3. Dr. Walter F. Hoffman, 817 Summit Avenue, Seattle, Secretary.

Utah State Medical Association, Salt Lake City, July 1-3. Dr. M. M. Critchlow, Boston Building, Salt Lake City, Secretary.

Western Branch of the American Urological Association, Vancouver, B. C., July 5. Dr. W. E. Stevens, Flood Building, San Francisco, Secretary.

Wyoming State Medical Society, Casper, June 24-25. Dr. Earl Whedon, 50 North Main Street, Sheridan, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Issues of periodicals are kept on file for a period of five years only. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending, but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

Archives of Neurology and Psychiatry, Chicago

21: 731-988 (April) 1929

*Epileptic Seizure: Relation to Normal Thought and Normal Action. J. Rosett, New York.—p. 731.
Cerebral Circulation: VI. Effect of Normal and Increased Intracranial Cerebrospinal Fluid Pressure on Velocity of Intracranial Blood Flow. H. G. Wolff and H. L. Blumgart, Boston.—p. 795.
Alzheimer's Disease: Two Cases. W. Malamud and K. Lowenberg, Foxborough, Mass.—p. 805.
Psychosis in Paget's Disease (Osteitis Deformans): Four Cases. M. R. Kaufman, Boston.—p. 828.
Diencephalic Vegetative Mechanisms. S. E. Jelliffe, New York.—p. 838.
*Endarteritis of Small Cortical Vessels in Severe Infections and Toxemias. N. W. Winkelman, Philadelphia, and J. L. Eckel, Buffalo.—p. 863.
New Vestibular Complexes for Localization of Lesions of Brain: 139 Verified Lesions. L. Fisher and M. A. Glaser, Philadelphia.—p. 876.
Basal Metabolism in Schizophrenia. R. G. Hoskins, Boston, and F. H. Sleeper, Worcester, Mass.—p. 887.
Electronystagmography. I. L. Meyers, Los Angeles.—p. 901.
Unilateral Neurofibromatosis of Cranial and Deep Cervical Nerves: Case. G. T. Pack, Tuscaloosa, Ala.—p. 919.
Impotence in Male. B. Karpman, Washington, D. C.—p. 924.

Relation of Epileptic Seizure to Normal Thought and Action.—Rosett endeavors to show that the epileptic seizure is not of itself an abnormal phenomenon, but that it is an abnormal facility of the normal process by which an inhibition of the sensory or conscious state results in muscular activity.

Endarteritis of Small Cortical Vessels in Severe Infections and Toxemias.—Seven cases are reported by Winkelman and Eckel of changes in the brain in severe infections and toxemias. These conditions include typhoid, acute rheumatic fever, toxemia of pregnancy, erysipelas, Hodgkin's disease, chronic tuberculosis and an undetermined toxic condition. The clinical picture consisted of delirium, at times of a most severe degree, with increase of psychomotor activities, such as restlessness, muscle twitching and even convulsions. Hyperesthesia, visual and auditory hallucinations and meningeal irritative signs were at times present. It was more a meningismus than a real meningitis. Pathologically, the predominant change occurred in the small cortical vessels with resultant secondary manifestations in the brain substance. The lining cells of the small vessels showed swelling and proliferation, with formation of new vessels. Scattered throughout the cortex were small microscopic areas of partial or complete softening resulting from cutting off of the blood supply by the swollen endothelial cells. Cloudy swelling in the ganglion cells was a universal observation. Reactive glial formation occurred. Evidences of inflammation were everywhere absent. The process was not an encephalitis. In the chronic stages, regression occurs. The endothelial cells of the vessels become shrunken and atrophic; the media becomes swollen and hyalinized and the adventitia fibrous. Organization takes place in the areas deprived of their blood supply.

Journal of Nerv. & Ment. Disease, New York

69: 361-480 (April) 1929

Innervation of Thymus. D. L. Pines and R. Majman, Leningrad, U. S. S. R.—p. 361.
Personality Changes in Children Following Cerebral Trauma. J. Kasanin, Boston.—p. 385.
Encephalitic Diaphragmatic Spasm Treated by Phrenicotomy. G. O. Speirs, Spearville, Kan.—p. 407.
*Modification of Babinski Phenomenon. A. N. Foxe, New York.—p. 414.
Oculogyric Crises as Compulsion Phenomena in Postencephalitis. S. E. Jelliffe, New York.—p. 415. (Con'td. from page 297.)

Modification of Babinski Phenomenon.—The modification of the Babinski phenomenon described by Foxe occurs with the release rather than the application of a stimulus. The right hand is used in studying the right foot and the left hand in studying the left foot. The foot is grasped from its lateral aspect, so that the last four fingers approximately touch the midplantar region, while the thumb is placed on the anterior surface of the foot on or slightly lateral and distal to the metatarsocuneiform articulation of the great toe. Gradually increasing pressure is made on the plantar and anterior surfaces of the foot, after which the pressure is suddenly released. This is followed by extension of the great toe. The extension does not occur until the pressure is released. Occasionally in instances in which the Babinski sign is unusually prominent, a dorsal extension of the great toe may occur on the application of pressure, but this does not interfere with a second response that occurs when the pressure is removed. This modification has been observed in diseases of the brain and cord associated with hyperreflexia and hyporeflexia. It has been found when other modifications have been absent and has been suggestive when the Babinski sign has been suggestive.

Kentucky Medical Journal, Bowling Green

27: 137-184 (April) 1929

Advantages and Disadvantages of County as Unit for Health Administration. M. E. Barnes, New York.—p. 141.
Care of Tuberculosis. P. A. Turner, Louisville.—p. 146.
Subtotal Gastrectomy for Radical Cure of Gastric and Duodenal Ulcers. J. M. Frehling, Louisville.—p. 148.
William Harvey (1578-1657). E. F Horine, Louisville.—p. 156.
Eosinophilia. C. G. Lucas, Louisville.—p. 161.
Resection of Stomach for Ulcer. G. Sherrill, Louisville.—p. 165.
Microscopic and Pathologic Findings in Case of Gastric Ulcer Related by Dr. Sherrill. R. P. Ball, Louisville.—p. 166.
Mesenteric Tumor with Intestinal Obstruction. L. Frank, Louisville. —p. 169.
Urologic Problems as Seen in General Practice. I. H. Cutler, Louisville. —p. 174.
Acute Rheumatic Fever: Case. S. A. Overstreet, Louisville.—p. 180.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1: 715-752 (April 20) 1929

Etiology, Prognosis and Treatment of Exophthalmic Goiter. F. S. Langmead.—p. 715.
Importance of Postnatal Maternal Care. D. Miller.—p. 717.
Variations in Incidence of Pneumococcal Infection in Nasal Accessory Sinuses of Children. E. Watson-Williams.—p. 720.
Confusional Insanity with Empyema of Sphenoidal Sinus. F. A. Pickworth.—p. 721.
Wounds of Heart. A. R. Gilchrist.—p. 723.
Treatment of Nephritis. R. Platt.—p. 726.
*Heroin After Abdominal Operations. D. Hall.—p. 728.
*Unusual Case of Eclampsia. L. J. Haydon.—p. 728.
*Colossal Ovarian Cyst. J. W. Heekes.—p. 728.

Heroin After Abdominal Operations.—Hall reports a case of heroin poisoning resulting from the hypodermic injection of one-twelfth grain (6 mg.) of heroin hydrochloride to allay postoperative pain.

Unusual Case of Eclampsia.—From the thirtieth week until the time of confinement, Haydon's patient was under observation and treatment because of albumin in the urine. She had a remarkably easy labor, lasting only four hours, and was delivered of a healthy child. The next three days were uneventful. Without any warning on the morning of the fourth day after labor, she had her first fit. In all she had twenty-three severe fits. The urine was solid with albumin. She was given two-thirds grain (42 mg.) of morphine sulphate hypodermically in two separate doses. The stomach and colon were washed out with sodium bicarbonate; 2 ounces (60 cc.) of castor oil was left in the stomach, and she had 2½ drachms (9.4 cc.) of chloral hydrate, in 30 grain (2 Gm.) doses every two hours, by rectum. Venesection was performed and 15 ounces (444 cc.) of blood withdrawn; one-fiftieth grain (1.3 mg.) of glyceryl trinitrate was given hypodermically. She was catheterized every eight hours. Recovery was uninterrupted.

Colossal Ovarian Cyst.—Heekes removed 55½ pints of fluid from the cyst in his case. Before operation the abdomen measured 56½ inches at the level of the umbilicus. There was no swelling of the lower extremities, and the heart and lungs were fairly normal.

Lyon Médical, Lyons

143: 349-380 (March 24) 1929

*Arterial Hypotension in Slight Hepatic Insufficiency. P. Dufourt.—p. 349.

Arterial Hypotension in Slight Hepatic Insufficiency.—Dufourt found arterial hypotension in 15 per cent of forty patients with slight hepatic insufficiency examined by him. Both systolic and diastolic pressures were lowered, but not considerably (from 12 to 10 by Vaquez method), and only seldom were the symptoms of hypotension such as asthenia (both mental and physical), fatigue and chilliness so pronounced that they required special medical treatment.

Policlinico, Rome

36: 77-112 (Jan. 21) 1929. Practical Section

Observations on Bubonic Plague. V. Marino.—p. 77.
*Metastatic Pulmonary Echinococcosis. O. Businco.—p. 81.
*Differential Diagnosis of Echinococcus Cysts of Lung. P. Filippella.—p. 86.
Restoration of Heart Action by Endocardiac Injection of Epinephrine. L. Urbani.—p. 89.

Metastatic Pulmonary Echinococcosis.—Businco admits that the diagnosis has chiefly prognostic value, since the condition is inexorably fatal. Death intervenes in a few months, or at the most, in from three to four years, from the appearance of the first disturbances. All modes of treatment heretofore instituted have proved unavailing. Surgical intervention, which would be the method of choice in a single hydatid, is here absolutely contraindicated, for obvious reasons. The only hope lies in the discovery of a parasitotropic chemotherapeutic substance. Nevertheless, if opportunity offers and the patient is disposed, any therapeutic measure that seems to offer some chance of success may be tried.

Differential Diagnosis of Echinococcus Cysts of the Lung.—In connection with a case of echinococcus cyst of the lung, Filippella discusses the differential diagnostic criteria. He emphasizes especially the importance of Carducci's diagnostic sign, which can be applied by any physician with means always at hand, thus obviating the necessity of special laboratory examinations, which are not always convenient. Carducci's sign helps to distinguish an encysted pleural collection from a tumefaction (in the wide sense) that develops in the pulmonary parenchyma and comes finally, at a certain moment, to strike the thoracic wall. Whereas in the first case one notes, on heavy percussion, an area of dulness that is inscribed within that noted on slight percussion, in the second case one finds, on the contrary, a more extensive dulness on heavy percussion than on slight percussion, which has a clear anatomophysical explanation. In the first case, the collection between the pleura and the lung assumes the shape of a hemisphere, which buries itself in the pulmonary parenchyma from the convex side and presents therefore a greater thickness in the center than on the periphery; hence, on slight percussion, one must take in up to the periphery of the collection in order to get a pulmonary sound, whereas on heavy percussion, the underlying lung resounds. On the other hand, in the case of the tumefaction, whether it is a cyst, a tumor, an abscess or a gumma that is developing in the pulmonary parenchyma, these formations of spherical shape touch the thoracic wall in the part that is convex. Hence, on slight percussion, there is projected to the thoracic wall the dull area in direct contact with it, whereas heavy percussion produces a larger area of dulness owing to the greater depth of the tumefaction. Carducci's sign has a wide application in pulmonary disorders other than echinococcus cyst.

Münchener medizinische Wochenschrift, Munich

76: 527-566 (March 29) 1929

Treatment and Prognosis of Fractures of Vertebrae. G. Magnus.—p. 527.
Present Status of Treatment of Fractures of Jaws. E. Reichenbach.—p. 530.
Clinical Significance of Presence of Porphyrins in Urine. I. Gelmann.—p. 532.
*Diagnosis of Perforating Peptic Ulcer and a Rare Pathognomonic Symptom. C. Neller.—p. 534.
Complications Following Spinal Anesthesia. W. Kaldewey.—p. 536.
Psychopathology of Persons Swallowing Foreign Bodies. F. Gebert.—p. 537.
Blood Groups in Canton (China). E. A. Dormanns.—p. 539.
Reposition of Teeth in Injury of Jaw. Reuter.—p. 541.
*Traumatic Cerebrospinal Meningitis. Hügelmann.—p. 541.
Apparatus for Sterilization of Instruments in Minor Surgery. F. C. Münch.—p. 541.
Harmful Effects of Premature Massage in Injuries. Cornelius.—p. 542.

Diagnosis of Perforating Peptic Ulcer and a Rare Pathognomonic Symptom.—Neller states that in most cases of perforating peptic ulcer the diagnosis is not very difficult. Nevertheless there are instances in which the characteristic symptoms are not so clear, while in other cases disturbances such as enteritis or colic simulate perforation of an ulcer. He describes one case which had been diagnosed as perforation of an ulcer. However, the symptoms disappeared quickly and it was found that the disturbance had been caused by nicotine colic. The author reports another case in which his attention was directed to a pathognomonic symptom. In this instance the diagnosis was not quite clear, and because pains were felt in the region of the appendix, the possibility of appendicitis had been considered. Pressure on a small hernial sac on the umbilicus elicited a peculiar noise. Since this hernial sac did not contain intestines, it was obvious that this peculiar sound could be caused only by air which had escaped from the stomach. On the basis of this observation, the case was diagnosed "perforating ulcer." Operation was performed immediately. The author directs attention to two other characteristic symptoms. The patient with perforating ulcer does not show diaphragmatic breathing. His respiration is therefore superficial and rapid. At the beginning of the expiration the sudden opening of the glottis may be heard. The second symptom may be observed when the patient attempts to sit up without assistance. In order to avoid any exertion of the abdominal muscles, he will support himself on his hands and arms.

Traumatic Cerebrospinal Meningitis.—A case of cerebrospinal meningitis is reported by Hügelmann. A youth, aged 18, was injured on the left nostril. After the small wound had been dressed, the patient did not complain of pain, and he was able to resume his work as an agricultural laborer. For about a week nothing unusual was noted. Then he suddenly had convulsions and a profuse hemorrhage and collapsed. He was brought to the hospital unconscious. In connection with the previous injury of the nose, the possibility of a lesion of the brain was considered, and the case was diagnosed cerebrospinal meningitis. Death followed a few hours later. The postmortem examination verified the diagnosis. The case was remarkable, because the infection occurred a week after the trauma. The author reasons that the infection was probably not primary, since in that case the symptoms would have developed earlier. He assumes that the cerebrospinal meningitis was due to an infection from the nose. He concludes that in apparently harmless injuries, the possibility of serious complications should not be overlooked.

Ugeskrift for Læger, Copenhagen

91: 211-230 *(March 14) 1929

*Operative Treatment of Frontal Sinusitis. J. Jessen.—p. 211.
*Case of Insulin Poisoning. P. Iversen.—p. 216.

Operative Treatment of Frontal Sinusitis.—Jessen states that the method described by him, an adaptation of principles from various methods, is safer than the intranasal method, gives good cosmetic results because of the small cicatrix hidden in the shadow of the eyebrow and the very small breach in the anterior wall of the sinus, and has the great advantage of allowing exploratory trepanation. In nine of thirty-two patients operated on by this procedure from 1924 to 1927, the frontal sinus was found normal. Reexamination of twenty-six patients after from nine months to four years showed fifteen cured, seven improved, two not improved, and recurrence in two. In twenty cases the cicatrix was practically invisible; in five with complications the cosmetic results were fair; one had been reoperated on elsewhere. Reports are also given of six cases treated since January, 1928.

Case of Insulin Poisoning.—Although the intoxication in Iversen's patient, a boy, aged 11, occurred after a fall in the blood sugar value, the patient did not become wholly conscious until three and one-half hours after the blood sugar had risen to 0.251 per cent.